

FILE 'HCAPLUS' ENTERED AT 14:43:55 ON 30 JAN 2009

L1        32931 S OLIGOSACCHARIDE  
L2        114856 S MANNO OR MANNOSE OR ISOMALTO OR ISOMALTOSE OR GENTIO OR GENTI  
L3        6385 S L1 AND L2  
L4        76010 S CAESINOGLYCOMACROPEPTIDE OR GUAR OR GALACTOMANNAN OR LACTOSE  
L5        81984 S L3 OR L4  
L6        172759 S PREBIOTIC OR ENTERIC OR GUT OR INTESTINAL  
L7        3858 S L5 AND L6  
L8        2624 S L7 AND (PY<2003 OR AY<2003 OR PRY<2003)  
L9        40 S L8 AND PREBIOTIC  
L10      257 S CASEINOGLYCOMACROPEPTIDE OR GLYCOMACROPEPTIDE  
L11      16 S CASEINOGLYCOMACROPEPTIDE  
L12      14 S L11 AND (PY<2003 OR AY<2003 OR PRY<2003)  
L13      944 S CHITOOLIGOSACCHARIDE OR (CHITO-OLIGOSACCHARIDE) OR CHITOTRIOS  
L14      953 S CHITOOLIGOSACCHARIDE OR (CHITO-OLIGOSACCHARIDE) OR CHITOTRIOS  
L15      4563 S PREBIOTIC  
L16      0 S L14 AND L15  
L17      166445 S GUT OR MICROFLORA OR INTESTINAL  
L18      15 S L14 AND L17  
L19      7 S L18 AND (PY<2003 OR AY<2003 OR PRY<2003)  
L20      1 S METHYL(W) (MANNOOLIGOSACCHARIDE OR (MANNO-OLIGOSACCHARIDE))  
L21      1418 S GENTIOOLIGOSACHARIDE OR GENTIOBIOSE OR GENTIOTRIOSE OR GENTI  
L22      1434 S GENTIOOLIGOSACCHARIDE OR GENTIOBIOSE OR GENTIOTRIOSE OR GENTI  
L23      28 S L17 AND L22  
L24      19 S L23 AND (PY<2003 OR AY<2003 OR PRY<2003)  
L25      206 S METHYL MANNO?  
L26      2 S L17 AND L25  
L27      0 S METHYL(W) (MANNOBIOSE OR MANNOTRIOSE OR MANNOTETRAOSE OR MANNO

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=> file hcaplus  
COST IN U.S. DOLLARS  
SINCE FILE TOTAL  
ENTRY SESSION  
FULL ESTIMATED COST 0.22 0.22
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FILE 'HCAPLUS' ENTERED AT 14:43:55 ON 30 JAN 2009  
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FILE COVERS 1907 - 30 Jan 2009 VOL 150 ISS 6  
FILE LAST UPDATED: 29 Jan 2009 (20090129/ED)

HCAplus now includes complete International Patent Classification (IPC) reclassification data for the third quarter of 2008.

CAS Information Use Policies apply and are available at:

<http://www.cas.org/legal/infopolicy.html>

This file contains CAS Registry Numbers for easy and accurate substance identification.

```
=> s oligosaccharide  
L1      32931 OLIGOSACCHARIDE
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=> s manno or mannose or isomalto or isomaltose or gentio or gentiobiose or arabino or arabinose or chito or chitin or chitosan  
     2762 MANNO  
     43940 MANNOSE  
     222 ISOMALTO  
     2385 ISOMALTOSE  
     62 GENTIO  
    1409 GENTIOBIOSE  
    4117 ARABINO  
   22762 ARABINOSE  
     374 CHITO  
   18793 CHITIN  
   35287 CHITOSAN  
L2      114856 MANNO OR MANNOSE OR ISOMALTO OR ISOMALTPOSE OR GENTIO OR GENTIOBIOSE OR ARABINO OR ARABINOSE OR CHITO OR CHITIN OR CHITOSAN
```

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=> s l1 and l2  
L3      6385 L1 AND L2
```

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=> s caesinoglycomacropeptide or guar or galactomannan or lactose or lactulose  
     0 CAESINOGLYCOMACROPEPTIDE  
    12356 GUAR  
    3301 GALACTOMANNAN  
   60642 LACTOSE
```

L4            2317 LACTULOSE  
L4            76010 CAESINOGLYCOMACROPEPTIDE OR GUAR OR GALACTOMANNAN OR LACTOSE OR  
LACTULOSE

=> s 13 or 14  
L5            81984 L3 OR L4

=> s prebiotic or enteric or gut or intestinal  
        4563 PREBIOTIC  
        16633 ENTERIC  
        32607 GUT  
        133137 INTESTINAL  
L6            172759 PREBIOTIC OR ENTERIC OR GUT OR INTESTINAL

=> s 15 and 16  
L7            3858 L5 AND L6

=> s 17 ad (PY<2003 or AY<2003 or PRY<2003)

MISSING OPERATOR L7 AD

The search profile that was entered contains terms or  
nested terms that are not separated by a logical operator.

=> s 17 and (PY<2003 or AY<2003 or PRY<2003)  
        22983114 PY<2003  
        4503368 AY<2003  
        3972163 PRY<2003  
L8            2624 L7 AND (PY<2003 OR AY<2003 OR PRY<2003)

=> s 18 and prebiotic  
        4563 PREBIOTIC  
L9            40 L8 AND PREBIOTIC

=> d 19 1-40 ti abs bib

L9            ANSWER 1 OF 40 HCPLUS COPYRIGHT 2009 ACS on STN  
TI            Prebiotic oligosaccharide powder containing macroelements  
AB            The subject of the invention is an oligosaccharide power containing biol.  
active macroelements (calcium, and, optionally, magnesium), especially as a  
prebiotic powder. An edible organic acid is stirred into as aqueous  
solution of a prebiotic oligosaccharide. The acid  
stoichiometrically corresponds to the combined amount of the desired calcium  
and magnesium content. Then, a calcium compound, ideally calcium carbonate,  
is added, in an amount corresponding stoichiometrically to 5% by weight of the  
oligosaccharide and, optionally and inorg. magnesium compound is added,  
preferably magnesium hydroxy carbonate. After the reaction has taken  
place, the resulting solution is stirred constantly and dried using a known  
vaporization methods. As a prebiotic, lactulose,  
fructooligosaccharide or lactosaccharose is used, and as an organic acid,  
ideally citric acid, lactic acid and/or malic acid is used.

AN            2007:342494 HCPLUS <<LOGINID::20090130>>

DN            147:197231

TI            Prebiotic oligosaccharide powder containing macroelements  
IN            Schaeffer, Bela; Szakaly, Sandor; Feher, Jozsef; Keller, Beata  
PA            Magyar Tejgazdasagi Kiserleti Intezet Kft., Hung.  
SO            Hung. Pat. Appl., 11pp.  
CODEN: HUXXCV

DT            Patent

LA            Hungarian

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	-----

PI	HU 9702353	A2	19990928	HU 1997-2353	19971204 <--
	HU 9702353	A3	19991228		
	HU 225544	B1	20070328		
PRAI	HU 1997-2353		19971204 <--		

L9 ANSWER 2 OF 40 HCAPLUS COPYRIGHT 2009 ACS on STN  
TI Prebiotic compositions containing oligosaccharides for control  
of intestinal disorders such as inflammatory bowel disease,  
diarrhea and constipation.

AB The present invention concerns nutritional compns. comprising oligosaccharides for controlling inflammatory bowel disease and related disorders, such as diarrhea and constipation.

AN 2004:513455 HCPLUS <<LOGINID::20090130>>

DN 141:53289

TI Prebiotic compositions containing oligosaccharides for control of intestinal disorders such as inflammatory bowel disease, diarrhea and constipation.

IN Gibson, Glenn R.; Beer, Michael

PA Novartis Nutrition Ag, Switz.

SO PCT Int. Appl., 29 pp.

CODEN: PIXXD2

DT Patent

## LA English

FAN, CNT 1

PATENT NO.

PATENT NO.		RIND	DATE	APPLICATION NO.	DATE
PI	WO 2004052121	A1	20040624	WO 2003-EP14087	20031211 <--
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LT, LU, LV, MA, MD, MK, MN, MX, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SE, SG, SK, SY, TJ, TM, TN, TR, TT, UA, US, UZ, VC, VN, YU, ZA, ZW				
	RW: AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR				
US	20040131659	A1	20040708	US 2003-721652	20031125 <--
CA	2508693	A1	20040624	CA 2003-2508693	20031211 <--
AU	2003294835	A1	20040630	AU 2003-294835	20031211 <--
EP	1571923	A1	20050914	EP 2003-785796	20031211 <--
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
BR	2003017272	A	20051108	BR 2003-17272	20031211 <--
CN	1731938	A	20060208	CN 2003-80105558	20031211 <--
JP	2006509797	T	20060323	JP 2004-558076	20031211 <--
NZ	540576	A	20070330	NZ 2003-540576	20031211 <--
ZA	2005004385	A	20060726	ZA 2005-4385	20050530 <--
MX	2005006266	A	20050819	MX 2005-6266	20050610 <--
PRAI	GB 2002-29015	A	20021212	<--	
	WO 2003-EP14087	W	20031211		

RE.CNT 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 3 OF 40 HCAPLUS COPYRIGHT 2009 ACS on STN

ANSWER 3 OF 10 - HAN 200 - SPRING 2009 - RSS ON SITE  
TI Use of prebiotics for the prevention of onset of Type II diabetes

AB The invention discloses the use of prebiotics for the preparation of food or pharmaceutical compns. intended for the prevention of the appearance of type II diabetes in subjects presenting a predisposition to develop this type of diabetes, as well as the food and pharmaceutical compns. containing these prebiotics.

AN 2004:218529 HCPLUS <<LOGINID::20090130>>

DN 140:264511  
 TI Use of prebiotics for the prevention of onset of Type II diabetes  
 IN Monsan, Pierre; Valet, Philippe; Remaud, Simeon Magali; Saulnier, Blache  
 Jean Sebastien  
 PA Institut National de la Recherche Agronomique INRA, Fr.  
 SO Fr. Demande, 22 pp.  
 CODEN: FRXXBL

DT Patent

LA French

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	FR 2844453	A1	20040319	FR 2002-11389	20020913 <--
	FR 2844453	B1	20060519		
	WO 2004024167	A2	20040325	WO 2003-FR2705	20030912 <--
	WO 2004024167	A3	20040513		
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	AU 2003282156	A1	20040430	AU 2003-282156	20030912 <--
	EP 1539195	A2	20050615	EP 2003-773775	20030912 <--
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
	ZA 2005002976	A	20060628	ZA 2005-2976	20050413 <--
	US 20060100172	A1	20060511	US 2005-527819	20051011 <--
PRAI	FR 2002-11389	A	20020913 <--		
	WO 2003-FR2705	W	20030912		

RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 4 OF 40 HCPLUS COPYRIGHT 2009 ACS on STN  
 TI Medicament, food supplement, and fodder additive containing plant-origin  
 antioxidants and prebiotics.  
 AB The invention relates to a medicament, food supplement, or fodder additive  
 containing prebiotics and plant-based antioxidants, especially  
 oligosaccharides and  
 grapeseed and herb exts.

AN 2004:182715 HCPLUS <>LOGINID::20090130>>

DN 140:198447

TI Medicament, food supplement, and fodder additive containing plant-origin  
 antioxidants and prebiotics.

IN Berkulin, Wilhelm; Pischel, Ivo

PA Finzelberg G.m.b.H. & Co. K.-G., Germany

SO PCT Int. Appl., 8 pp.

CODEN: PIXXD2

DT Patent

LA German

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2004017979	A2	20040304	WO 2003-EP9068	20030815 <--
	WO 2004017979	A3	20040422		
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,				

GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,  
 LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM,  
 PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN,  
 TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW  
 RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,  
 KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES,  
 FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR,  
 BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG  
 AU 2003266285 A1 20040311 AU 2003-266285 20030815 <--  
 EP 1530479 A2 20050518 EP 2003-792330 20030815 <--  
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,  
 IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK  
 PRAI EP 2002-18416 A 20020816 <--  
 WO 2003-EP9068 W 20030815

RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 5 OF 40 HCAPLUS COPYRIGHT 2009 ACS on STN  
 TI Use of hydrocolloids as prebiotic food additives for decreasing flatulence  
 AB The use of a hydrocolloid as a prebiotic in the preparation of a product for consumption is described. The hydrocolloid has the advantage of reduced gas release when fermented by bacteria in the gastrointestinal tract after the consumption of said product. Food compns. containing the hydrocolloid and methods for using the compns. in methods of treatment are also provided.  
 AN 2004:20410 HCAPLUS <>LOGINID::20090130>>  
 DN 140:76302  
 TI Use of hydrocolloids as prebiotic food additives for decreasing flatulence  
 IN Rautonen, Nina; Apajalahti, Juha; Siikanen, Osmo  
 PA Danisco A/S, Den.  
 SO PCT Int. Appl., 48 pp.  
 CODEN: PIXXD2  
 DT Patent  
 LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2004002240	A2	20040108	WO 2003-IB3282	20030620 <--
	WO 2004002240	A3	20040325		
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	AU 2003247112	A1	20040119	AU 2003-247112	20030620 <--
PRAI	GB 2002-14800	A	20020626	<--	
	GB 2002-20238	A	20020830	<--	
	US 2002-417401P	P	20021009	<--	
	WO 2003-IB3282	W	20030620		

RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 6 OF 40 HCAPLUS COPYRIGHT 2009 ACS on STN  
 TI The use of dead-end and cross-flow nanofiltration to purify

prebiotic oligosaccharides from reaction mixtures  
 AB Nanofiltration (NF) of model sugar solns. and com. oligosaccharide mixsts. were studied in both dead-end and cross-flow modes. Preliminary trials, with a dead-end filtration cell, demonstrated the feasibility of fractionating monosaccharides from disaccharides and oligosaccharides in mixsts., using loose nanofiltration (NF-CA-50, NF-TFC-50) membranes. During the nanofiltration purification of a com. oligosaccharide mixture, yields of 19% for the monosaccharides and 88% for di, and oligosaccharides were obtained for the NF-TFC-50 membrane after four filtration steps, indicating that removal of the monosaccharides is possible, with only minor losses of the oligosaccharide content of the mixture. The effects of pressure, feed concentration, and filtration temperature  
 were studied in similar expts. carried out in a cross-flow system, in full recycle mode of operation. The rejection rates of the sugar components increased with increasing pressure, and decreased with both increasing total sugar concentration in the feed and increasing temperature. Continuous diafiltration (CD) purification of model sugar solns. and com. oligosaccharide mixsts. using NF-CA-50 (at 25°C) and DS-5-DL (at 60°) membranes, gave yield values of 14 to 18% for the monosaccharide, 59 to 89% for the disaccharide and 81 to 98% for the trisaccharide present in the feed. The study clearly demonstrates the potential of cross flow nanofiltration in the purification of oligosaccharide mixsts. from the contaminant monosaccharides.  
 AN 2003:878653 HCPLUS <<LOGINID::20090130>>  
 DN 141:107866  
 TI The use of dead-end and cross-flow nanofiltration to purify prebiotic oligosaccharides from reaction mixtures  
 AU Grandison, Alistair S.; Goulas, Athanasios K.; Rastall, Robert A.  
 CS School of Food Biosciences, The University of Reading, Reading, RG6 6AP, UK  
 SO Songklanakarin Journal of Science and Technology (2002), 24(Suppl.), 915-928  
 CODEN: SJSTA2  
 PB Songklanakarin Journal of Science and Technology  
 DT Journal  
 LA English  
 RE.CNT 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 7 OF 40 HCPLUS COPYRIGHT 2009 ACS on STN  
 TI Micronutrient combination product with pro- and prebiotics.  
 AB A probiotics-containing micronutrient combination product comprises at least two product portions with various composition, whereby the first portion has probiotics as active ingredients and the second portion has a prebiotic with trace elements, vitamins and secondary plant materials.  
 AN 2003:696036 HCPLUS <<LOGINID::20090130>>  
 DN 139:229690  
 TI Micronutrient combination product with pro- and prebiotics.  
 IN Glagau, Kristian; Schmidt, Michael  
 PA Orthomol Pharmazeutische Vertriebs GmbH, Germany  
 SO Ger. Offen., 8 pp.  
 CODEN: GWXXBX  
 DT Patent  
 LA German  
 FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI DE 10206995	A1	20030904	DE 2002-10206995	20020219 <--
PRAI DE 2002-10206995		20020219	<--	

L9 ANSWER 8 OF 40 HCAPLUS COPYRIGHT 2009 ACS on STN  
 TI Pet food containing colostrum, a probiotic, and a prebiotic  
 AB A feed composition with health benefits, particularly for the development of the gastrointestinal tract during weaning in puppies or kittens, comprises colostrum, a probiotic, and a prebiotic. Thus, a dairy treat may include 43% sucrose, 30% hydrogenated vegetable fat, 15% colostrum, 5% yogurt powder, 3% prebiotic, 2% probiotic, and other ingredients. *Lactobacillus acidophilus* may be used as the probiotic.  
 AN 2003:396643 HCAPLUS <>LOGINID::20090130>>  
 DN 138:400863  
 TI Pet food containing colostrum, a probiotic, and a prebiotic  
 IN Giffard, Catriona Julie; Kendall, Peter  
 PA Mars Incorporated, USA  
 SO PCT Int. Appl., 37 pp.  
 CODEN: PIXXD2  
 DT Patent  
 LA English  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2003041512	A1	20030522	WO 2002-GB5053	20021108 <--
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	AU 2002339112	A1	20030526	AU 2002-339112	20021108 <--
	AU 2002339112	B2	20071011		
	GB 2382528	A	20030604	GB 2002-26137	20021108 <--
	GB 2382528	B	20040505		
	EP 1446023	A1	20040818	EP 2002-777492	20021108 <--
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK				
	JP 2005508647	T	20050407	JP 2003-543412	20021108 <--
	US 20050079244	A1	20050414	US 2004-495289	20041123 <--
	AU 2008200052	A1	20080131	AU 2008-200052	20080107 <--
	US 20080260893	A1	20081023	US 2008-34190	20080409 <--
PRAI	GB 2001-27152	A	20011112	<--	
	GB 2001-27528	A	20011116	<--	
	AU 2002-339112	A3	20021108	<--	
	WO 2002-GB5053	W	20021108	<--	
	US 2004-495289	B1	20041123		

RE.CNT 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 9 OF 40 HCAPLUS COPYRIGHT 2009 ACS on STN  
 TI Application of Pre-Probiotics in Health: The Lactulose Example.  
 [In: Eur. J. Nutr., 2002; 41(Suppl. 1)]  
 AB Unavailable  
 AN 2003:123982 HCAPLUS <>LOGINID::20090130>>  
 DN 138:220796  
 TI Application of Pre-Probiotics in Health: The Lactulose Example.  
 [In: Eur. J. Nutr., 2002; 41(Suppl. 1)]  
 AU Vonk, Roel J.; Priebe, Marion G.; Editors  
 CS Germany

SO (2002) Publisher: (Steinkopff Verlag, Darmstadt, Germany), 37 pp.  
DT Book  
LA English

L9 ANSWER 10 OF 40 HCAPLUS COPYRIGHT 2009 ACS on STN  
TI Effects of lactulose on the intestinal microflora of periparturient sows and their piglets  
AB The periparturient period of animals (and humans) is very stressful and influenced by the microecosystem of the gastrointestinal tract (GIT). Performance and productivity of animal husbandry depend on the health of animal mothers and their offspring. We investigated the influence of prebiotic amts. of lactulose in sows and their piglets. Two exptl. trial sows received daily 30 mL lactulose, 71 field trial sows received daily 45 mL lactulose during their periparturient period (10 days before until 10 days after parturition). The weaners of trial sows received 15 mL lactulose per 1 kg baby food 10 days before and 10 days after weaning. The effect of lactulose was recorded by performance parameters like number of piglet born alive, losses until weaning, body mass of piglets, daily weight gain of weaners until 35 days after weaning. The effect of lactulose on GIT microflora was estimated by bacterial counts of faeces of sows (total aerobic bacteria, Gram-neg. bacteria, Clostridium (C.) perfringens). In order to show a previously unknown effect of lactulose we investigated the levels of antibodies to phospholipase C (PLC) of C. perfringens in plasma of exptl. sows and in colostral and ripe milk of field sows. Lactulose influenced the performance parameters of sows in a non-significant way. In case of weaners we recorded significant daily weight gains. Lactulose significantly influenced total aerobic bacterial counts, C. perfringens counts in faeces of sows 20 days after parturition. Under exptl. conditions it was shown that trial sows and their piglets had higher IgG-antibody levels to C. perfringens PLCs than the control animals. Similar results were found under field conditions. Trial sows had significant higher IgG-anti LPS (J5) antibodies in milk 10 days after birth.

AN 2003:101269 HCAPLUS <<LOGINID::20090130>>  
DN 138:286675  
TI Effects of lactulose on the intestinal microflora of periparturient sows and their piglets  
AU Krueger, M.; Schroedl, W.; Isik, K.; Lange, W.; Hagemann, L.  
CS Institute for Bacteriology and Mycology, Veterinary Faculty, University of Leipzig, Leipzig, 04103, Germany  
SO European Journal of Nutrition (2002), 41(Suppl. 1), 1/26-1/31  
CODEN: EJNUFZ; ISSN: 1436-6207  
PB Steinkopff Verlag  
DT Journal  
LA English

RE.CNT 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 11 OF 40 HCAPLUS COPYRIGHT 2009 ACS on STN  
TI Medical, nutritional and technological properties of lactulose. An update  
AB A review. The undigestible disaccharide lactulose has been in medical use for over 40 yr, mainly in the treatment of portosystemic encephalopathy and of constipation. Pharmacodynamics of lactulose make it an efficacious and safe drug in these indications. But the reason for its numerous potential benefits are under research now. The major principle of action is the promotion of growth and activity of lactic acid bacteria in the gut which counteract detrimental species such as

clostridia or salmonellae. This shows that prebiotic action, if used accordingly, can have medically significant effects. The mechanism of action, medical and prebiotic effects, veterinary uses, and technol. properties of lactulose, e.g. in yogurt production are reviewed.

AN 2003:101268 HCPLUS <<LOGINID::20090130>>  
DN 138:286580  
TI Medical, nutritional and technological properties of lactulose.  
An update  
AU Schumann, Christian  
CS Solvay Pharmaceuticals GmbH, Hannover, 30002, Germany  
SO European Journal of Nutrition (2002), 41(Suppl. 1), 1/17-1/25  
CODEN: EJNUFZ; ISSN: 1436-6207  
PB Steinkopff Verlag  
DT Journal; General Review  
LA English  
RE.CNT 73 THERE ARE 73 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 12 OF 40 HCPLUS COPYRIGHT 2009 ACS on STN  
TI Prebiotic and probiotic compositions and methods for their use  
in gut-based therapies  
AB Microencapsulated and/or enteric coated composition containing a mixture of probiotics, prebiotics and ammoniaphilic bacteria with high urease activity with or without sorbents with specific adsorption affinities for uremic toxins such as creatinine, uric acid, phenol, indoles, middle mol. weight mols. and inorg. phosphate and water absorbents are provided. Also provided are methods of alleviating symptoms of uremia in a patient which comprises administering orally to a patient suffering from uremia a microencapsulated and/or enteric-coated composition  
AN 2002:888446 HCPLUS <<LOGINID::20090130>>  
DN 137:375219  
TI Prebiotic and probiotic compositions and methods for their use  
in gut-based therapies  
IN Ranganathan, Natarajan; Dickstein, Jack; Mehta, Raj  
PA Kibow Biotech, Inc, USA  
SO PCT Int. Appl., 34 pp.  
CODEN: PIXXD2  
DT Patent  
LA English

FAN.CNT 8

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2002091833	A1	20021121	WO 2002-US15073	20020510 <--
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	US 20020187134	A1	20021212	US 2001-855346	20010515 <--
	US 6706287	B2	20040316		
	CA 2447376	A1	20021121	CA 2002-2447376	20020510 <--
	AU 2002342641	A1	20021125	AU 2002-342641	20020510 <--
	AU 2002342641	B2	20070426		
	EP 1397044	A1	20040317	EP 2002-769723	20020510 <--
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				

CN 1509144 A 20040630 CN 2002-810078 20020510 <--  
CN 100337549 C 20070919  
JP 2004533442 T 20041104 JP 2002-588760 20020510 <--  
IN 2003MN01029 A 20050624 IN 2003-MN1029 20031107 <--  
PRAI US 2001-855346 A 20010515 <--  
WO 2002-US15073 W 20020510 <--  
RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 13 OF 40 HCAPLUS COPYRIGHT 2009 ACS on STN  
TI Diminished Efficacy of Colonic Adaptation to Lactulose Occurs in Patients with Inflammatory Bowel Disease in Remission  
AB Lactulose was proposed to be beneficial in treating inflammatory bowel disease (IBD). The hypothesis is based on the prebiotic potential of lactulose. A practical approach to testing its usefulness is to determine colonic adaptation to tolerable doses in patients with IBD. Our objective was to determine if a 3-wk course of lactulose will decrease BH2 and symptoms in response to an acute lactulose challenge test in control subjects and IBD patients. The design was a Prospective cohort study. Subjects were given a 30-g lactulose challenge test (test 1), and then ingested 10 g of lactulose twice a day for 3 wk before being retested (Test 2). A third test was given after a further 5-wk washout period. The main outcomes were the change in 4-h sum of BH2 ( $\Sigma$ 4HrBH2) values obtained every 30 min, peak BH2, and 4-h sum of symptom score ( $\Sigma$ 4HrSS) during the lactulose challenge test. In addition, the authors also report the change in self-reported symptoms and diarrhea during the 3-wk administration of lactulose. In controls,  $\Sigma$ 4HrBH2 decreased from test 1 (380.5 ± 56.6 ppm) to test 2 (288.6 ± 57.4 ppm) ( $P < 0.05$ ), and returned toward test 1 levels by test 3 (307.5 ± 53.1,  $P > 0.5$ ). Unlike controls, the  $\Sigma$ 4HrBH2 in patients failed to achieve significance between test 1 (444.5 ± 55.8 ppm), test 2 (366.5 ± 80.7 ppm,  $P > 0.2$ ) or test 3 (411.6 ± 62.5 ppm,  $P > 0.2$ ).  $\Sigma$ 4HrSS results in controls followed a pattern similar to  $\Sigma$ 4HrBH2, achieving significance only in test 2 ( $P < 0.02$ ). Symptoms during the intertest periods decreased by the third week in controls ( $P < 0.05$ ), but not in patients ( $P > 0.5$ ). Symptoms were lower in patients and varied insignificantly both in challenges and intertest periods. In conclusion, although controls adapt to a 3-wk period of lactulose ingestion, IBD patients fail to meet the criteria for adaptation. However, longer studies may be needed to establish whether IBD patients are slower to adapt.

AN 2002:862630 HCAPLUS <<LOGINID::20090130>>  
DN 138:248271  
TI Diminished Efficacy of Colonic Adaptation to Lactulose Occurs in Patients with Inflammatory Bowel Disease in Remission  
AU Szilagyi, Andrew; Rivard, Julie; Shrier, Ian  
CS Division of Gastroenterology, Department of Medicine, Sir Mortimer B. Davis Jewish General Hospital, Montreal, QC, Can.  
SO Digestive Diseases and Sciences (2002), 47(12), 2811-2822  
CODEN: DDSCDJ; ISSN: 0163-2116  
PB Kluwer Academic/Plenum Publishers  
DT Journal  
LA English  
RE.CNT 44 THERE ARE 44 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 14 OF 40 HCAPLUS COPYRIGHT 2009 ACS on STN  
TI Prebiotics in infant formulas: biochemical characterisation by thin layer chromatography and high performance anion exchange chromatography  
AB Background. Breast-fed infants, unlike bottle-fed babies, have a microbial

intestinal flora characterized by a marked predominance of bifidobacteria and lactic acid bacteria. This is essentially due to the prebiotic effect of oligosaccharides in human milk. Recently, oligosaccharides with a prebiotic effect have been added to formulas. Aim. To characterize the mixture of oligosaccharides contained in these new formulas. Materials and Methods. The characterization of oligosaccharides was performed using thin layer chromatog. as well as high performance anion exchange chromatog. Results. The mixture of oligosaccharides used in the formulas analyzed was made up of oligosaccharides with low mol. weight (transgalactosylated oligosaccharides) and polysaccharides with high mol. weight (inulin). Conclusion. With the methods employed, it was possible to characterize the mixture of oligosaccharides used as prebiotics in the formulas now available on the market.

AN 2002:856075 HCPLUS <<LOGINID::20090130>>

DN 138:72203

TI Prebiotics in infant formulas: biochemical characterisation by thin layer chromatography and high performance anion exchange chromatography

AU Coppa, G. V.; Bruni, S.; Zampini, L.; Galeazzi, T.; Gabrielli, O.

CS Institute of Paediatrics, University of Ancona, Ancona, Italy

SO Digestive and Liver Disease (2002), 34(Suppl. 2), S124-S128

CODEN: DLDIFK; ISSN: 1590-8658

PB W. B. Saunders

DT Journal

LA English

RE.CNT 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 15 OF 40 HCPLUS COPYRIGHT 2009 ACS on STN

TI Growth, viability and activity of *Bifidobacterium* spp. in skim milk containing prebiotics

AB Growth, activity and mean doubling time (Td) of five *Bifidobacterium* species in the presence of four types of prebiotics, and concns. of acetic and lactic acids were determined during fermentation and after 4 wk of refrigerated

storage. The Td was lowest for *B. animalis* with raftilose and inulin. Retention of viability of bifidobacteria was greatest with hi-amylose corn starch (hi-maize). The average pH of skim milk at the end of 4 wks storage averaged 4.34 (for *B. animalis* with raftilose) to 4.07 (for *B. longum* with inulin). The highest levels of acetic acid and lactic acid were produced by *B. pseudolongum* with lactulose and *B. infantis* with lactulose, resp.

AN 2002:805574 HCPLUS <<LOGINID::20090130>>

DN 138:23935

TI Growth, viability and activity of *Bifidobacterium* spp. in skim milk containing prebiotics

AU Bruno, F. A.; Lankaputhra, W. E. V.; Shah, N. P.

CS School of Life Sciences and Technology, Melbourne City Mail Centre, Victoria University, Victoria, 8001, Australia

SO Journal of Food Science (2002), 67(7), 2740-2744

CODEN: JFDSAZ; ISSN: 0022-1147

PB Institute of Food Technologists

DT Journal

LA English

RE.CNT 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 16 OF 40 HCPLUS COPYRIGHT 2009 ACS on STN

TI Review article: lactose - a potential prebiotic

AB A review. Lactose maldigestion, which affects a large majority of the world's population, was mostly linked with uncomfortable symptoms.

In addition, dairy consumption is variably blamed or recommended for a number of ill effects. There is, however, emerging evidence that certain lactic acid-producing bacteria, which selectively consume prebiotics, may be beneficial against some lower intestinal diseases.

Lactose maldigestion and lactose should perhaps be re-evaluated as a potential provider of such a prebiotic. This historical and observational review discusses lactose and argues the opinion that it has prebiotic potential. Moreover, in maldigesters, natural ingestion or lack thereof may be relevant in the pathogenesis of diseases such as colorectal cancer and inflammatory bowel diseases.

AN 2002:783937 HCPLUS <<LOGINID::20090130>>

DN 138:72384

TI Review article: lactose - a potential prebiotic

AU Szilagyi, A.

CS School of Medicine, Division of Gastroenterology, Department of Medicine, The Sir Mortimer B. Davis Jewish General Hospital, McGill University, Montreal, QC, Can.

SO Alimentary Pharmacology and Therapeutics (2002), 16(9), 1591-1602

CODEN: APTHEN; ISSN: 0269-2813

PB Blackwell Science Ltd.

DT Journal; General Review

LA English

RE.CNT 145 THERE ARE 145 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 17 OF 40 HCPLUS COPYRIGHT 2009 ACS on STN

TI Prebiotic oligosaccharides: evaluation of biological activities and potential future developments

AB A review. Prebiotics are recognized for their ability to increase levels of 'health promoting' bacteria in the intestinal tract of humans or animals. This normally involves targeting the activities of bifidobacteria and/or lactobacilli. Non digestible oligosaccharides such as fructo-oligosaccharides, lactulose and traps-galacto-oligosaccharides seem to be efficacious prebiotics in that they confer the degree of selective fermentation required. Other oligomers are used as prebiotics in Japan e.g. xylo-oligosaccharides, soybean-oligosaccharides, isomalto-oligosaccharides. To determine prebiotic functionality, various in vitro systems may be used. These range from simple batch culture fermenters to complex models of the gastrointestinal tract. The definitive test however is an in vivo study. The advent of mol. based procedures in gut microbiol. has alleviated many concerns over the reliability of microbial characterization, in response to prebiotic intake. Techniques such as DNA probing and mol. fingerprinting are now being applied to both laboratory and human studies. These will help to further identify prebiotics that can be added to the diet and thereby fortify 'beneficial' bacteria. Such robust technologies can also be used in structure-function assays to identify the mechanisms behind prebiotic effects. Considerable research effort is currently being expended in developing so called 'second generation' prebiotics. These are forms that have multiple biol. activity that attempts health enhancement properties beyond the genus level stimulation of bifidobacteria or lactobacilli within the gut microflora. Examples include higher mol. weight oligomers than is conventional for prebiotics, such that targeted activities in the distal colon are feasible (the left side of the human large gut being the frequent area for colonic disorder). Glycobiol. is also developing anti-adhesive prebiotics that incorporate receptor sites for common gut pathogens and/or their activities. Through the use of reverse

enzyme technol., as applied to  $\beta$ -galactosidase activity in prebiotics, oligosaccharides that enhance a lactic microflora at the species, rather than genus, level are possible. This review gives an account of how second generation prebiotics may be manufactured, through a variety of biotechnol. techniques, and tested for their biol. activity. The health attributes of such mols. as well as existing prebiotics is also discussed, with reference to specific target populations. The prebiotic concept is a much more recent development in dietary intervention for enhanced gut function than is prebiotics. Not surprisingly therefore, research developments are proceeding quickly. Because oligosaccharides can be added to a wide variety of foodstuffs, new functional food developments are continuing. It is important that these are tested using reliable methodologies and that any health effects are underpinned by realistic mechanisms of effect.

AN 2002:783388 HCPLUS <<LOGINID::20090130>>  
DN 138:168911  
TI Prebiotic oligosaccharides: evaluation of biological activities and potential future developments  
AU Rastall, Robert A.; Gibson, Glenn R.  
CS Unit of Food Microbial Sciences, School of Food Biosciences, University of Reading, Reading, RG6 6AP, UK  
SO Probiotics and Prebiotics (2002), 107-148. Editor(s): Tannock, Gerald W. Publisher: Caister Academic Press, Wymondham, UK.  
CODEN: 69DEL7; ISBN: 0-9542464-1-1  
DT Conference; General Review  
LA English  
RE.CNT 99 THERE ARE 99 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 18 OF 40 HCPLUS COPYRIGHT 2009 ACS on STN  
TI Mixtures of fructose and lactose as a low-calorie bulk sweetener with reduced glycemic index  
AB Mixts. of fructose and lactose are useful for reducing caloric intake and glycemic index for individuals who are overweight, glucose-impaired, diabetic, or who just consume too large a fraction of their calories from "added sugars". The fructose/lactose sweetener is included in the daily diet as a one-for-one replacement for "added sugars" in various edible formulations without sacrificing quality of taste. Sucrose can be used as a replacement for all or part of the fructose in the claimed sweetener to increase sweetness or improve certain functional properties without substantially changing caloric value. The claimed mixts. of fully-caloric sugars work synergistically to reduce available calories and blood sugar concentration. Specifically, fructose interferes strongly with normal small-intestinal absorption of lactose and interferes moderately with sucrose absorption, while lactose interferes with normal small-intestinal absorption of both sucrose and starch. Unabsorbed di- and oligosaccharides pass into the colon and cause increased growth of healthful bacteria, making the new sweetener useful as a prebiotic. No gastrointestinal symptoms of sugar intolerance were observed when the claimed sugar mixts. were ingested at normal dietary levels.  
AN 2002:777608 HCPLUS <<LOGINID::20090130>>  
DN 137:262425  
TI Mixtures of fructose and lactose as a low-calorie bulk sweetener with reduced glycemic index  
IN Zehner, Lee R.; Zehner, Warren L.  
PA Vivalac, Inc., USA  
SO PCT Int. Appl., 34 pp.  
CODEN: PIXXD2  
DT Patent  
LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2002078458	A1	20021010	WO 2002-US8855	20020322 <--
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	US 20030031772	A1	20030213	US 2001-852462	20010510 <--
	CA 2442204	A1	20021010	CA 2002-2442204	20020322 <--
	AU 2002255882	A1	20021015	AU 2002-255882	20020322 <--
	AU 2002255882	B2	20070913		
	EP 1383391	A1	20040128	EP 2002-725309	20020322 <--
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
	CN 1499936	A	20040526	CN 2002-807523	20020322 <--
	CN 1259844	C	20060621		
	JP 2004524040	T	20040812	JP 2002-576736	20020322 <--
	BR 2002008516	A	20041228	BR 2002-8516	20020322 <--
	US 20030082286	A1	20030501	US 2002-233748	20020903 <--
	US 6777397	B2	20040817		
	US 20040147457	A1	20040729	US 2003-460792	20030612 <--
	MX 2003008783	A	20040730	MX 2003-8783	20030926 <--
	HK 1062874	A1	20061027	HK 2004-105752	20040804 <--
PRAI	US 2001-279249P	P	20010328	<--	
	US 2001-852462	A	20010510	<--	
	WO 2002-US8855	W	20020322	<--	
	US 2002-233748	A3	20020903	<--	

RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 19 OF 40 HCAPLUS COPYRIGHT 2009 ACS on STN  
TI Oligosaccharide and dietary fiber as prebiotics  
AB A review on prebiotic effects of hardly-digestive oligosaccharides, e.g. fructooligosaccharide and lactulose, and dietary fiber. The administration method of the prebiotics are also discussed.  
AN 2002:733813 HCAPLUS <>LOGINID::20090130>>  
DN 138:320291  
TI Oligosaccharide and dietary fiber as prebiotics  
AU Oku, Tsuneyuki; Nakamura, Sadako  
CS Department of Nursing and Nutrition, Seibold University of Nagasaki, Japan  
SO Food Style 21 (2002), 6(9), 50-53  
CODEN: FSTYFF; ISSN: 1343-9502  
PB Shokuhin Kagaku Shinbunsha  
DT Journal; General Review  
LA Japanese

L9 ANSWER 20 OF 40 HCAPLUS COPYRIGHT 2009 ACS on STN  
TI Nutritional advantages of probiotics and prebiotics  
AB A review. The potential nutritional advantages of probiotics and prebiotics consist of preventive and sometimes curative effects against certain diseases. The effects against diseases of the gastrointestinal origin are discussed. There is evidence for pos. effects of some prebiotics to alleviate constipation and treat hepatic encephalopathy. Other interesting aspects include prevention of colon cancer,

intestinal infections, and recurrence of inflammatory bowel diseases. Some probiotics can alleviate lactose intolerance, antibiotic-associated intestinal disorders, and gastroenteritis. Pos. trials have suggested preventive effects against intestinal colonization with specific gut pathogens, including Clostridium difficile and Helicobacter pylori.

AN 2002:484108 HCAPLUS <>LOGINID::20090130>>  
DN 137:184864  
TI Nutritional advantages of probiotics and prebiotics  
AU Marteau, P.; Boutron-Ruault, M. C.  
CS Gastroenterology Department, Hopital Europeen Georges Pompidou, Paris, 75908, Fr.  
SO British Journal of Nutrition (2002), 87(Suppl. 2), S153-S157  
CODEN: BJNUAV; ISSN: 0007-1145  
PB CABI Publishing  
DT Journal; General Review  
LA English

RE.CNT 45 THERE ARE 45 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 21 OF 40 HCAPLUS COPYRIGHT 2009 ACS on STN  
TI Intestinal microflora research for the 21st century  
AB A review. Dietary modulation of the human gut microbiota is a topical area of nutritional sciences. This is driven by the fact that the gastrointestinal tract, particularly the colon, is very heavily populated. Undoubtedly, certain gut species are pathogenic and may be involved in the onset of acute and chronic disorder. However, most bacteria in the gut are benign, with the possibility that some groups are beneficial. Bifidobacteria and lactobacilli are thought to belong to this latter category and are common targets for dietary intervention that improves health. Dietary modulation of the human gut microflora by functional foods such as probiotics and prebiotics is designed to improve human health. A probiotic is a live microbial feed supplement, whereas a prebiotic is a non viable food ingredient selectively metabolised by intestinal bacterial species seen as beneficial. Examples of probiotics are lactobacilli and bifidobacteria, given in fermented milks or as lyophilised forms. Fructo-oligosaccharides, lactulose and galacto-oligosaccharides are all popular prebiotics in Europe. These have been shown *in vivo* to stimulate nos. of bifidobacteria in faecal samples. Many more types exist in Japan. Bifidobacteria and lactobacilli are thought to contribute many health promoting benefits towards the host. These include increased resistance to pathogenic bacteria, lowering blood ammonia, increased stimulation of the immune response and a reduction in the risk of cancer. New functional food developments are set, more than ever, to exploit probiotics and prebiotics. However, it is important that their use is underpinned by robust scientific principles and technologies.

AN 2002:297879 HCAPLUS <>LOGINID::20090130>>  
DN 136:368957  
TI Intestinal microflora research for the 21st century  
AU Gibson, Glenn R.  
CS Food Microbial Sciences Unit, School of Food Biosciences, The University of Reading, Reading, RG6 6AP, UK  
SO Bioscience and Microflora (2002), 20(4), 131-134  
CODEN: BIMIFM; ISSN: 1342-1441  
PB Japan Bifidus Foundation  
DT Journal; General Review  
LA English

RE.CNT 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 22 OF 40 HCAPLUS COPYRIGHT 2009 ACS on STN  
TI TOS, a new prebiotic derived from whey  
AB A review. Worldwide there is a strong trend to ban the use of antibiotic growth promoters (AGP) in animal nutrition. Many companies are trying to develop new feed additives to replace the current AGP.  
Transgalactooligosaccharides (TOS) made by the Dutch company Borculo Domo Ingredients are a recent development in this area. TOS are prepared by enzymic conversion of whey lactose by  $\beta$ -glucosidase into oligosaccharides with 2-8 lactose units, leaving glucose as a byproduct. The com. product containing 60% TOS is called Lactifit. Data on Lactifit use in veal calves, broiler chickens, and humans are discussed. TOS can stimulate the growth of Bifidobacteria and other health-promoting bacteria, such as Lactobacilli, in the large intestinal environment.

AN 2002:204454 HCAPLUS <<LOGINID::20090130>>  
DN 136:354579  
TI TOS, a new prebiotic derived from whey  
AU Ziggers, Dick  
CS Neth.  
SO Feed Mix (2001), 9(6), 7-9  
CODEN: FEMIF4; ISSN: 0928-124X  
PB Elsevier International Business Information  
DT Journal; General Review  
LA English

L9 ANSWER 23 OF 40 HCAPLUS COPYRIGHT 2009 ACS on STN  
TI Prebiotic oligosaccharides via alternansucrase acceptor reactions  
AB Alternansucrase synthesizes an  $\alpha$ -(1 3),(1 6)-D-glucan via glucosyl transfer from sucrose. It also synthesizes oligosaccharides containing both types of linkages when acceptor sugars are present (Cote & Robyt, Carbohydr. Res. 111 (1982)127-142). We have used alternansucrase to synthesize oligosaccharides from maltose, maltodextrins, maltitol, cellobiose, raffinose, melibiose, lactose, and other acceptors. Anal. of the products shows that alternansucrase is better at catalyzing acceptor reactions when compared to dextran sucrase, and that the structures of the products differ. Whereas dextran sucrase generally makes only a single product from any given acceptor, alternansucrase often makes two or more, and in higher yields. Several of these oligosaccharide acceptor products have been isolated and tested for their ability to support the growth of probiotic bacteria, including strains of Lactobacillus and Bifidobacterium. Certain acceptor products supported growth of probiotic strains, but did not serve as substrates for undesirable bacteria such as Salmonella, Clostridium, or E. coli. The structures of the acceptor products and their potential as prebiotics will be discussed.

AN 2002:186281 HCAPLUS <<LOGINID::20090130>>  
TI Prebiotic oligosaccharides via alternansucrase acceptor reactions  
AU Cote, Gregory L.; Holt, Scott M.; Miller, Candace  
CS Fermentation Biotechnology Research Unit, USDA ARS National Center for Agricultural Utilization Research, Peoria, IL, 61604, USA  
SO Abstracts of Papers, 223rd ACS National Meeting, Orlando, FL, United States, April 7-11, 2002 (2002), CARB-036 Publisher: American Chemical Society, Washington, D. C.  
CODEN: 69CKQP  
DT Conference; Meeting Abstract  
LA English

L9 ANSWER 24 OF 40 HCAPLUS COPYRIGHT 2009 ACS on STN  
TI A comparative in vitro evaluation of the fermentation properties of

AB prebiotic oligosaccharides  
Comparison of in vitro fermentation properties of com. prebiotic oligosaccharides. Populations of predominant gut bacterial groups were monitored over 24 h of batch culture through fluorescent in-situ hybridization. Short-chain fatty acid and gas production were also measured. All prebiotics increased the nos. of bifidobacteria and most decreased clostridia. Xylo-oligosaccharides and lactulose produced the highest increases in nos. of bifidobacteria while fructo-oligosaccharides produced the highest populations of lactobacilli. Galacto-oligosaccharides (GOS) resulted in the largest decreases in nos. of clostridia. Short-chain fatty acid generation was highest on lactulose and GOS. Gas production was lowest on isomalto-oligosaccharides and highest on inulin. The oligosaccharides differed in their fermentation characteristics. Isomalto-oligosaccharides and GOS were effective at increasing nos. of bifidobacteria and lactate while generating the least gas. The study provides comparative data on the properties of com. prebiotics, allowing targeting of dietary intervention for particular applications and blending of oligosaccharides to enhance overall functionality.

AN 2001:921704 HCAPLUS <>LOGINID::20090130>>

DN 136:339904

TI A comparative in vitro evaluation of the fermentation properties of prebiotic oligosaccharides

AU Rycroft, C. E.; Jones, M. R.; Gibson, G. R.; Rastall, R. A.

CS Food Microbial Sciences Unit, School of Food Biosciences, The University of Reading, Reading, RG6 6AP, UK

SO Journal of Applied Microbiology (2001), 91(5), 878-887  
CODEN: JAMIFK; ISSN: 1364-5072

PB Blackwell Science Ltd.

DT Journal

LA English

RE.CNT 32 THERE ARE 32 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 25 OF 40 HCAPLUS COPYRIGHT 2009 ACS on STN

TI Investigations on the analytical determination of low-molecular weight dietary fibre

AB Food or food components, e.g. the water-soluble parts of cereals like rye and wheat contain close to one third of non-digestible components, which are not detected by the common anal. for dietary fiber (DF), e. g. the enzymic-gravimetric methods according to ICC (International Association of Cereal Science and Technol.), AOAC (Association of Official Anal. Chemists) or AACC (American Association of Cereal Chemists). According to these methods, the soluble DF is precipitated by addition of ethanol. All component which do not precipitate

in 78% ethanol, escape the determination and a gap in the anal. balance results.

Moreover, the low mol. dietary fiber are fermentable products for the microorganisms in the large intestine. The microbial metabolism may cause prebiotic effects. Low mol. dietary fiber opens up a new area of functional food products provided the amount is detectable. Therefore, a method had to be found, which completes the existing way of analyses as simple and reliable as possible. HPLC with RI-detector was found to fulfill the expectations.

AN 2001:914270 HCAPLUS <>LOGINID::20090130>>

DN 136:68917

TI Investigations on the analytical determination of low-molecular weight dietary fibre

AU Gebhardt, E.; Mersiowsky, E.; Habel, A.; Herrmann, U.; Thomann, R.

CS IGV Institut fur Getreideverarbeitung GmbH, Bergholz-Rehbruecke, D-14558, Germany

SO Ernaehrung (Vienna, Austria) (2001), 25(9), 341-347  
CODEN: ERNRDC; ISSN: 0250-1554

PB Fachzeitschriftenverlagsgesellschaft mbH

DT Journal

LA German

RE.CNT 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 26 OF 40 HCAPLUS COPYRIGHT 2009 ACS on STN

TI The prebiotic effects of biscuits containing partially hydrolysed guar gum and fructo-oligosaccharides - a human volunteer study

AB Prebiotics are nondigestible food ingredients that target selected groups of human colonic microflora, thus altering the microbial composition in a more beneficial way by increasing the populations of bifidobacteria and/or lactobacilli. The prebiotic potential of partially hydrolyzed guar gum (PHGG) and fructooligosaccharides (FOS) contained in biscuits was assessed in 31 humans. Fluorescent *in situ* hybridization with oligonucleotide probes targeting *Bacteroides*, *Bifidobacterium*, *Clostridium*, and *Lactobacillus-Enterococcus* spp. was used for bacterial identification and the total bacteria were enumerated using the 4',6-diamidino-2-phenylindole fluorescent staining. The subjects consumed daily 3 biscuits (providing 6.6 g FOS and 3.4 g PHGG) or 3 placebo biscuits in two 21-day crossover periods. The *Bifidobacteria* counts increased after ingestion of the exptl. biscuits compared with placebo. The *Bifidobacteria* counts returned to pretreatment levels within 7 days after cessation of the exptl. biscuits intake. A correlation was found between the initial fecal *Bifidobacteria* counts and the magnitude of bifidogenesis; subjects with low initial *Bifidobacteria* counts experienced the greatest increase in bifidogenesis. No changes were observed in the other bacterial groups monitored. Thus, the prebiotic nature of FOS and PHGG was maintained in the final biscuit food product as evidenced from the selective increase in *Bifidobacteria* counts.

AN 2001:756726 HCAPLUS <<LOGINID::20090130>>

DN 136:36823

TI The prebiotic effects of biscuits containing partially hydrolysed guar gum and fructo-oligosaccharides - a human volunteer study

AU Tuohy, K. M.; Kolida, S.; Lustenberger, A. M.; Gibson, G. R.

CS Food Microbial Sciences Unit, School of Food Biosciences, University of Reading, Reading, RG6 6AP, UK

SO British Journal of Nutrition (2001), 86(3), 341-348  
CODEN: BJNUAV; ISSN: 0007-1145

PB CABI Publishing

DT Journal

LA English

RE.CNT 41 THERE ARE 41 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 27 OF 40 HCAPLUS COPYRIGHT 2009 ACS on STN

TI Prebiotics and probiotics for gastrointestinal health

AB A review. Research data suggest that probiotics and prebiotics, which both influence the endogenous gastrointestinal microflora, may have a role in therapy of human diseases, especially in the prevention of digestive diseases. The current knowledge on the probiotics and prebiotics fate in the gastrointestinal tract (survival, adherence, colonization, metabolism), mechanisms of action, potential adverse effects, and proven effects are discussed. Data from randomized controlled trials using various probiotics to treat lactose intolerance, antibiotic associated diarrhea, gastroenteritis, intestinal infections and colonization by pathogenic bacteria, and inflammatory bowel disease are

summarized. Data from randomized controlled trials using prebiotics to treat constipation and hepatic encephalopathy are also discussed. Potential probiotics and prebiotics applications, especially in colon cancer prevention, are mentioned.

AN 2001:608872 HCAPLUS <<LOGINID::20090130>>  
DN 136:53058  
TI Prebiotics and probiotics for gastrointestinal health  
AU Marteau, P.  
CS Gastroenterology Unit, European Hospital Georges Pompidou, AP-HP, Paris, 75015, Fr.  
SO Clinical Nutrition (2001), 20(Suppl. 1), 41-45  
CODEN: CLNUDP; ISSN: 0261-5614  
PB Harcourt Publishers Ltd.  
DT Journal; General Review  
LA English

RE.CNT 43 THERE ARE 43 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 28 OF 40 HCAPLUS COPYRIGHT 2009 ACS on STN  
TI Modulation of the intestinal ecosystem by probiotics and lactulose in children during treatment with ceftriaxone  
AB Background: The value of oral bacteriotherapy during antibiotic treatment is a much debated subject. Comparative studies on the effects of different probiotics on the intestinal ecosystem are lacking. Objective: Six different com. available prepns. of probiotics and 1 prebiotic (lactulose) were compared to establish whether their action prevented or corrected imbalances in the intestinal ecosystem (dysbiosis) during parenteral therapy with ceftriaxone. Methods: Fifty-one children (25 female, 26 male; mean age, 5.1 yr) admitted to the hospital for febrile respiratory tract infections were treated. Ceftriaxone 50 mg/kg per day was administered parenterally alone (therapy 1) or with 1 of the following probiotic/prebiotic prepns.: *Saccharomyces boulardii* (therapy 2); *Enterococcus* species (therapy 3); lactulose (therapy 4); *Lactobacillus casei* GG (therapy 5); *Lactobacillus rhamnosus*, *Lactobacillus bifidus*, and *Lactobacillus acidophilus* (therapy 6); *Bifidobacterium bifidum* and *L acidophilus* (therapy 7); or a mixture of various lactobacilli and bifidobacteria at high concns. (therapy 8). Intestinal microflora were evaluated by standard microbiol. methods and by biochem. assays on fecal samples collected before and after treatment. Results: Ceftriaxone induced a decrease in *Escherichia coli* and lactobacilli counts and an increase in cocci and clostridia counts. Partial protection of the intestinal ecosystem (eubiosis) was achieved with therapies 6, 7, and 8, which contained different combinations of *Lactobacillus* and *Bifidobacterium* species. Probiotics containing lactobacilli were more active than the older *Saccharomyces* and *Enterococcus* prepns. The newer probiotics reduced  $\beta$ -galactosidase,  $\beta$ -glucosidase, and  $\beta$ -glucuronidase levels. Increased fecal  $\beta$ -lactamase activity was observed in 60% of patients treated with ceftriaxone alone and 75% of those treated with ceftriaxone and *S boulardii*. A lower incidence of betalactamase-pos. samples (30%-40%) was observed with therapy 7 and therapy 8. Conclusions: In this preliminary study, probiotics containing multiple species of lactobacilli and bifidobacteria administered at high concentration (20 billion to 360 billion per day) were more effective in preventing dysbiosis induced by ceftriaxone treatment than were other prepns. studied. Probiotic therapy may need to be maintained for several days after discontinuation of antibiotic treatment to adequately restore balance to the intestinal ecosystem.

AN 2001:498631 HCAPLUS <<LOGINID::20090130>>  
DN 135:283004

TI Modulation of the intestinal ecosystem by probiotics and lactulose in children during treatment with ceftriaxone  
AU Zoppi, Giuseppe; Cinquetti, Mauro; Benini, Anna; Bonamini, Elettra; Minelli, Elisa Bertazzoni  
CS Department of Paediatrics, University of Verona, Verona, Italy  
SO Current Therapeutic Research (2001), 62(5), 418-435  
CODEN: CTCEA9; ISSN: 0011-393X  
PB Excerpta Medica, Inc.  
DT Journal  
LA English

RE.CNT 39 THERE ARE 39 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 29 OF 40 HCAPLUS COPYRIGHT 2009 ACS on STN  
TI Synthesis and fermentation properties of novel galacto-oligosaccharides by  $\beta$ -galactosidases from *Bifidobacterium* species  
AB  $\beta$ -Galactosidase enzymes were extracted from pure cultures of *Bifidobacterium angulatum*, *B. bifidum* BB-12, *B. adolescentis* ANB-7, *B. infantis* DSM-20088, and *B. pseudolongum* DSM-20099 and used in glycosyl transfer reactions to synthesize oligosaccharides from lactose. At a lactose concentration of 30% (wt/wt) oligosaccharide yields of 24.7 to 47.6% occurred within 7 h. Examination of the products by thin-layer chromatog. and methylation anal. revealed distinct product derived spectra from each enzyme. These were found to be different to that of Oligomate 55, a com. prebiotic galacto-oligosaccharide. Fermentation testing of the oligosaccharides showed an increase in growth rate, compared to Oligomate 55, with products derived from *B. angulatum*, *B. bifidum*, *B. infantis*, and *B. pseudolongum*. However *B. adolescentis* had a lower growth rates on its oligosaccharide compared with Oligomate 55. Mixed culture testing of the *B. bifidum* BS-4 oligosaccharide showed that the overall prebiotic effect was equivalent to that of Oligomate 55.

AN 2001:424131 HCAPLUS <>LOGINID::20090130>>

DN 135:151886

TI Synthesis and fermentation properties of novel galacto-oligosaccharides by  $\beta$ -galactosidases from *Bifidobacterium* species

AU Rabiu, Bodun A.; Jay, Andrew J.; Gibson, Glenn R.; Rastall, Robert A.

CS Division of Food Microbial Sciences, School of Food Biosciences, The University of Reading, Reading, RG6 6AP, UK

SO Applied and Environmental Microbiology (2001), 67(6), 2526-2530

CODEN: AEMIDF; ISSN: 0099-2240

PB American Society for Microbiology

DT Journal

LA English

RE.CNT 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 30 OF 40 HCAPLUS COPYRIGHT 2009 ACS on STN

TI Composition comprising micronutrients in combination with prebiotics, probiotics, and/or synbiotics

AB A composition useful for enhancing general immunity is disclosed. The composition

includes one or more micronutrients, one or more compds. selected from the group of a prebiotic, probiotic, and synbiotic, and lipid-based or carbohydrate-based excipient. Use of this composition to enhance general immunity of the composition is provided. A method of enhancing the general immunity of a mammal is provided, comprising the steps of removing a composition comprising micro-encapsulated micronutrient granules, a substance selected from the group of a prebiotic, probiotic or synbiotic, and a pharmaceutically acceptable excipient selected from the group of a lipid-based excipient and a carbohydrate-based excipient from packaging material; adding a therapeutically effective amount of said composition to a

food, and administering the food to said mammal.  
 AN 2001:167822 HCPLUS <<LOGINID::20090130>>  
 DN 134:206974  
 TI Composition comprising micronutrients in combination with prebiotics,  
     probiotics, and/or synbiotics  
 IN Zlotkin, Stanley H.  
 PA Can.  
 SO PCT Int. Appl., 48 pp.  
     CODEN: PIXXD2  
 DT Patent  
 LA English  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001015714	A1	20010308	WO 2000-CA990	20000828 <--
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	CA 2281463	A1	20010226	CA 1999-2281463	19990826 <--
	CA 2347891	A1	20010308	CA 2000-2347891	20000828 <--
PRAI	CA 1999-2281463	A	19990826 <--		
	WO 2000-CA990	W	20000828 <--		

RE.CNT 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD  
     ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 31 OF 40 HCPLUS COPYRIGHT 2009 ACS on STN  
 TI Production of galacto-oligosaccharides from lactose by  
     immobilized  $\beta$ -galactosidase  
 AB A review with 100 refs. Galacto-oligosaccharides (GOS) and  
     oligosaccharides in general have received a lot of attention recently,  
     mainly due to their many beneficial health effects and wide applications  
     as prebiotic food. Production of GOS from lactose by  
     enzyme reaction is reviewed in this paper. The enzyme  
      $\beta$ -galactosidase can be used to produce GOS containing 2 to 5 galactose  
     units and one glucose unit from lactose. Depending on the  
     enzyme source and reaction conditions, the GOS yield varied from below 20%  
     to as high as 67% (weight/weight). In general, a higher initial lactose  
     concentration gave a wider range of GOS types produced and increased GOS yield.  
     Reactions in an organic solvent did not increase GOS production, but rapidly  
     inactivated the enzyme. Using a com. enzyme from *Aspergillus oryzae*, a  
     maximum GOS yield of .apprx.71%, based on lactose reacted, was  
     obtained at low lactose conversions (.apprx.10%), but the yield  
     decreased with increasing lactose conversion. An integrated  
     immobilized enzyme reactor-separator process, which continuously removes  
     GOS from the reaction media, would give the highest possible GOS yield  
     (>65%) from lactose. Effects of enzyme immobilization and  
     methods to sep. GOS, such as nanofiltration, are also discussed in this  
     article.  
 AN 2001:107645 HCPLUS <<LOGINID::20090130>>  
 DN 134:279589  
 TI Production of galacto-oligosaccharides from lactose by  
     immobilized  $\beta$ -galactosidase  
 AU Yang, Shang-Tian; Bednarcik, Julia A.  
 CS Department of Chemical Engineering, The Ohio State University, Columbus,  
     OH, 43210, USA

SO ACS Symposium Series (2001), 776(Applied Biocatalysis in  
 Specialty Chemicals and Pharmaceuticals), 131-154  
 CODEN: ACSMC8; ISSN: 0097-6156  
 PB American Chemical Society  
 DT Journal; General Review  
 LA English  
 RE.CNT 100 THERE ARE 100 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 32 OF 40 HCAPLUS COPYRIGHT 2009 ACS on STN  
 TI Improved infant formula, protein hydrolysate for use in such an infant  
 formula, and method for producing such a hydrolysate  
 AB The invention relates to an infant formula, comprising a) at least one  
 protein component; and b) at least one lipid component that can be easily  
 digested by an infant; and optionally one or two of: c) at least one  
 prebiotic component; d) at least one viscosity improving  
 component; and optionally one or more components of infant formula known  
 per se, characterized in that: the protein component a) has a phosphorous  
 content of less than 0.75 g P/100 g protein. The formula is preferably  
 further characterized in that the at least one lipid component b)  
 comprises at least one fatty acid triglyceride and/or a mixture of fatty  
 acid triglycerides, in which: palmitic acid residues make up more than 10  
 % of all fatty acid residues present in the triglycerides; and the  
 triglycerides in which the palmitate residue is in the Sn1- or  
 Sn3-position make up no more than 16 % of all triglycerides present. The  
 invention also relates to a method for preparing a protein hydrolyzate, in  
 particular for use in the formula of the invention.

AN 2001:1126 HCAPLUS <>LOGINID::20090130>>  
 DN 134:55806  
 TI Improved infant formula, protein hydrolysate for use in such an infant  
 formula, and method for producing such a hydrolysate  
 IN Bindels, Jacob Geert; Van Baalen, Antonie; Hageman, Robert Johan Joseph;  
 Huybers, Peti; Dumon, Liliane-Rose Louisa Dominique  
 PA N.V. Nutricia, Neth.  
 SO Eur. Pat. Appl., 22 pp.  
 CODEN: EPXXDW  
 DT Patent  
 LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1062873	A1	20001227	EP 1999-204287	19991213 <--
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	EP 1557096	A1	20050727	EP 2005-75549	20000213 <--
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY, TR				
	CA 2393269	A1	20010614	CA 2000-2393269	20001213 <--
	CA 2393269	C	20070220		
	WO 2001041581	A1	20010614	WO 2000-NL913	20001213 <--
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	AU 2001032420	A	20010618	AU 2001-32420	20001213 <--
	AU 771010	B2	20040311		

BR 2000016341	A	20020827	BR 2000-16341	20001213 <--
EP 1237419	A1	20020911	EP 2000-991317	20001213 <--
EP 1237419	B1	20050309		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR			
HU 2002003736	A2	20030328	HU 2002-3736	20001213 <--
HU 2002003736	A3	20041228		
JP 2003515354	T	20030507	JP 2001-542764	20001213 <--
NZ 519513	A	20040730	NZ 2000-519513	20001213 <--
RU 2243698	C2	20050110	RU 2002-118715	20001213 <--
AT 290320	T	20050315	AT 2000-991317	20001213 <--
EP 1535520	A1	20050601	EP 2005-75390	20001213 <--
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, CY, TR			
PT 1237419	T	20050729	PT 2000-991317	20001213 <--
ES 2238339	T3	20050901	ES 2000-991317	20001213 <--
CN 1236682	C	20060118	CN 2000-817116	20001213 <--
CN 1788615	A	20060621	CN 2005-10127128	20001213 <--
TW 250848	B	20060311	TW 2000-89127573	20001221 <--
ZA 2002004504	A	20030605	ZA 2002-4504	20020605 <--
NO 2002002751	A	20020812	NO 2002-2751	20020610 <--
NO 325239	B1	20080303		
IN 2002CN00891	A	20070420	IN 2002-CN891	20020612 <--
MX 2002PA05851	A	20031014	MX 2002-PA5851	20020613 <--
US 20030072865	A1	20030417	US 2002-149986	20021011 <--
US 6863918	B2	20050308		
HK 1049429	A1	20050520	HK 2003-101628	20030305 <--
PRAI EP 1999-204287	A	19991213	<--	
CN 2000-817116	A3	20001213	<--	
EP 2000-991317	A3	20001213	<--	
WO 2000-NL913	W	20001213	<--	

RE.CNT 34 THERE ARE 34 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 33 OF 40 HCPLUS COPYRIGHT 2009 ACS on STN  
 TI In vitro growth behaviour of probiotic bacteria in culture media with carbohydrates of prebiotic importance  
 AB The influence of a variety of prebiotic sugars (galacto-, manno-, fructooligosaccharides, lactulose and others) and basic carbohydrates on the growth of a selection of probiotic bifidobacteria (9 strains), Lactobacillus acidophilus (8 strains) and other lactobacilli (9 strains) was investigated by applying in vitro methodologies based on optical d. measurement. It has been shown that some of the bacteria could markedly utilize the substrates but with pronounced variation, depending on the individual nature of the strains. Besides their capability to grow in galacto- and fructooligosacharide containing media, a distinct growth in lactulose-based substrates was evident for most of the strains tested. Results presented can be used for selecting probiotic strains and prebiotic sugars to form symbiotic formulations.  
 AN 2000:572720 HCPLUS <>LOGINID::20090130>>  
 DN 134:28719  
 TI In vitro growth behaviour of probiotic bacteria in culture media with carbohydrates of prebiotic importance  
 AU Kneifel, Wolfgang; Rajal, Andreas; Kulbe, Klaus Dieter  
 CS Department of Dairy Research & Bacteriology, University of Agricultural Sciences, Vienna, A-1180, Austria  
 SO Microbial Ecology in Health and Disease (2000), 12(1), 27-34  
 CODEN: MEHDE6; ISSN: 0891-060X  
 PB Taylor & Francis  
 DT Journal  
 LA English

RE.CNT 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 34 OF 40 HCAPLUS COPYRIGHT 2009 ACS on STN  
TI The isolation of lactic acid bacteria from human colonic biopsies after enrichment on lactose derivatives and rye arabinoxyllo-oligosaccharides  
AB Lactic acid bacteria (LAB) were isolated from human colon biopsies on LAMVAB by enrichment with different substrates such as lactose derivs., rye arabinoxyllo-oligosaccharides and rye fractions. The selected isolates were tested for their ability to adhere to Caco-2 cells. Only Lactobacillus species were enriched under these conditions. From 161 isolates screened, 28% were identified by ribotyping as Lactobacillus rhamnosus, 29% as L. salivarius, 14% as L. cellobiosus, 13% as L. paracasei and the rest remained unidentified. L. rhamnosus was preferentially enriched by lactulose, L. salivarius by lactobionic acid, L. cellobiosus by lactitol and L. paracasei by arabinoxyllo-oligosaccharides. The biopsy-derived strains L. rhamnosus E-97948 and L. paracasei E-97949 have potential for further evaluations in their probiotic and technol. properties. Lactulose may have prebiotic effects on colonic LAB by favoring their growth. (c)  
2000 Academic Press.  
AN 2000:65242 HCAPLUS <>LOGINID::20090130>>  
DN 132:331941  
TI The isolation of lactic acid bacteria from human colonic biopsies after enrichment on lactose derivatives and rye arabinoxyllo-oligosaccharides  
AU Kontula, P.; Suihko, M. -L.; Suortti, T.; Tenkanen, M.; Mattila-Sandholm, T.; von Wright, A.  
CS VTT Biotechnology and Food Research, FIN-02044, Finland  
SO Food Microbiology (2000), 17(1), 13-22  
CODEN: FOMIE5; ISSN: 0740-0020  
PB Academic Press  
DT Journal  
LA English

RE.CNT 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 35 OF 40 HCAPLUS COPYRIGHT 2009 ACS on STN  
TI Effects on parameters of glucose homeostasis in healthy humans from ingestion of leguminous versus maize starches  
AB Due to their lower glycemic index, leguminous seeds affect human carbohydrate metabolism lesser than do cereals. Problems, however, could arise from side effects, e.g., increasing flatulence. In healthy, metabolic and symptomatic responses following acute ingestion of equivalent amts. of pure pea starch (NASTAR, Cosucra BV, Rosendaal/The Netherlands), crude yellow pea flour (CPC Deutschland, Germany), and modified and unmodified cornstarches (SNOWFLAKE and SIRONA, Cerestar/Germany) were assessed, i.e., blood plasma glucose, serum insulin, C-peptide, H exhalation, and flatulence. Pure pea starch elicited less hyperglycemia (-47%), hyperinsulinemia (-54%), and C-peptide secretion (-37%) as compared to cornstarch, while the responses to modified vs. unmodified corn starch were similar. Pure pea and corn starches were equally well tolerated, while flatulence and breath H concentration were increased only after the intake of crude pea flour. Malabsorption of pea flour was calculated to be 10% (reference lactulose). The well-known metabolic advantages of pea starch over cornstarch were confirmed. Tolerability of pure pea starch was excellent, but not of crude pea flour. Provided it has the same tech. characteristics, pure pea starch as a "prebiotic" could replace cornstarch in industrial food production

AN 1999:641673 HCAPLUS <<LOGINID::20090130>>  
DN 131:256742  
TI Effects on parameters of glucose homeostasis in healthy humans from  
ingestion of leguminous versus maize starches  
AU Seewi, G.; Gnauck, G.; Stute, R.; Chantelau, E.  
CS CPC Research Development Center, Heilbronn, D-74016, Germany  
SO European Journal of Nutrition (1999), 38(4), 183-189  
CODEN: EJNUFZ; ISSN: 1436-6207  
PB Dr. Dietrich Steinkopff Verlag GmbH & Co. KG  
DT Journal  
LA English

RE.CNT 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 36 OF 40 HCAPLUS COPYRIGHT 2009 ACS on STN  
TI Inulin, oligofructose and intestinal function  
AB A review with 26 refs. Inulin and oligofructose have attracted much  
attention as nonabsorbable carbohydrates with prebiotic  
properties. When inulin and oligofructose were added to a controlled  
diet, significant increases were noted in colonic bifidobacterial  
populations. These changes may promote both colonic and systemic health  
through modification of the intestinal microflora. Inulin and  
oligofructose are rapidly and completely fermented by the colonic  
microflora with the production of acetate and other short-chain fatty acids.  
As with lactulose, they may also result in the growth of the  
fecal biomass, and in doing so, entrap ammonia for bacterial protein  
synthesis or conversion to the ammonium ion. As with dietary fiber and  
other nonabsorbable carbohydrates, there is also interest in inulin and  
oligofructose for inhibition of colonic carcinogenesis, blood cholesterol  
decrease, immune stimulation, and enhanced vitamin synthesis. The  
influence of carbohydrate mol. weight is also an issue, with the longer chain  
lengths providing more sustained fermentation patterns. More human studies are  
needed, including studies on the long-term effects of inulin and  
oligofructose consumption on colonic health, in particular on markers of  
cancer risk such as decreased colonic polyp recurrence.

AN 1999:424058 HCAPLUS <<LOGINID::20090130>>  
DN 131:169657  
TI Inulin, oligofructose and intestinal function  
AU Jenkins, David J. A.; Kendall, Cyril W. C.; Vuksan, Vladimir  
CS Department of Nutritional Sciences, Faculty of Medicine, University of  
Toronto, Toronto, ON, M5S 1A8, Can.  
SO Journal of Nutrition (1999), 129(7S), 1431S-1433S  
CODEN: JONUAI; ISSN: 0022-3166  
PB American Society for Nutritional Sciences  
DT Journal; General Review  
LA English

RE.CNT 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 37 OF 40 HCAPLUS COPYRIGHT 2009 ACS on STN  
TI Production of transgalactosylated oligosaccharides (TOS) by  
galactosyltransferase activity from *Penicillium simplicissimum*  
AB Ingestion of transgalactosylated oligosaccharides and other non-digestible  
oligosaccharides (NDOS) induces a significant increase in *Bifidobacterium*,  
*Lactobacillus* and some desirable species of *Streptococcus* populations in  
the gut of human and other animals (prebiotic effect).  
This change in the intestinal flora is responsible for several  
beneficial physiol. effects such as a decrease of putrefactive products in  
the feces, lower blood cholesterol content, higher Ca<sup>2+</sup> absorption, a  
smaller loss of bone tissue in ovariectomized female rats and a lower  
incidence of colon cancer.  $\beta$ -Galactosidase from *P. simplicissimum*, a

strain isolated from soil, showed high galactosyltransferase activity when incubated with a highly concentrated lactose solution. Optimum pH temperature ranges for hydrolytic activity were 4.0-4.6 and 55-60°C, resp., for a lactose concentration of 5.0% (weight/volume). Maximal galactosyltransferase activity was obtained at pH 6.5 and 50°C and TOS synthesis was pos. associated with lactose concentration in the reaction medium. Thus, when 50 mL of a 60% (weight/volume) lactose solution was incubated with 26.6 U of  $\beta$ -galactosidase under the best ph and temperature conditions for transferase activity, a final product with 30.5% TOS (183 mg/mL), 27.5% residual lactose and 42.0% monosaccharides was obtained.

AN 1999:391090 HCPLUS <>LOGINID::20090130>>  
DN 131:169537  
TI Production of transgalactosylated oligosaccharides (TOS) by galactosyltransferase activity from *Penicillium simplicissimum*  
AU Cruz, Rubens; D'Arcadia Cruz, Vinicius; Belote, Juliana Gisele; De Oliveira Khenayfes, Marcelo; Dorta, Claudia; Dos Santos Oliveira, Luiza Helena; Ardiles, Eduardo; Galli, Alexandre  
CS Dep. Ciencias Biologicas, Univ. Estadual Paulista, Brazil  
SO Bioresource Technology (1999), 70(2), 165-171  
CODEN: BIRTEB; ISSN: 0960-8524  
PB Elsevier Science Ltd.  
DT Journal  
LA English

RE.CNT 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 38 OF 40 HCPLUS COPYRIGHT 2009 ACS on STN  
TI Prebiotics  
AB A review with 77 refs. A range of non-digestible dietary supplements have now been identified that modify the balance of the intestinal microflora, stimulating the growth and/or activity of beneficial organisms and suppressing potentially deleterious bacteria. Termed "prebiotics" these supplements include lactulose, lactitol, a variety of oligosaccharides, and inulin. In particular, prebiotics promote the proliferation of bifidobacteria in the colon. The science of prebiotics is still in its infancy and as yet there is a dearth of reported clin. trials demonstrating clear efficacy in the prophylaxis or treatment of human disease. However, research to date indicates that prebiotics have potential to pos. influence human health. Prebiotics have shown promise in the prevention and control of exogenous and endogenous intestinal infections; control of serum triglycerides and cholesterol; improvement of mineral uptake; and reduction in putative risk factors for colon cancer. This review summarizes recent research into the impact of prebiotics on the microecol. in the human colon, and proposed mechanisms and effects of prebiotics on human health.

AN 1999:6074 HCPLUS <>LOGINID::20090130>>  
DN 130:196132  
TI Prebiotics  
AU Crittenden, Ross G.  
CS Food Science Australia Melbourne Laboratory, Hightett, 3190, Australia  
SO Probiotics (1999), 141-156. Editor(s): Tannock, Gerald W.  
Publisher: Horizon Scientific Press, Norfolk, UK.  
CODEN: 67CUAP  
DT Conference; General Review  
LA English

RE.CNT 77 THERE ARE 77 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 39 OF 40 HCPLUS COPYRIGHT 2009 ACS on STN  
TI An overview of probiotics, prebiotics and synbiotics in the functional

food concept: perspectives and future strategies  
AB A review with 39 refs. In recent years the functional food concept has moved progressively towards the development of dietary supplementation that may affect gut microbial composition and activities. The rationale derives from the fact that the human colon contains pathogenic, benign and possibly health promoting microbial species. These microbiota cause that the colon is metabolically the most active organ in the body and has significant nutritional roles. Diet is a feasible route by which the large gut microbiota composition and activities can be modulated. Probiotics are live microbial food addns. that have been in use for some time and are available in many food products, primarily fermented milks. Bacteria producing lactic acid and perceived to exert beneficial properties such as improved lactose digestion and resistance to pathogens are common probiotics. Prebiotics are nondigestible food ingredients (e.g. oligosaccharides) that have a selective fermentation in the colon. Fructose oligosaccharides can modify the gut flora composition in favor of bifidobacteria. Prebiotics have been hitherto used for genus level changes and do not suffer the survivability difficulties that may arise with probiotics. Other strategies may exploit both technologies together (as synbiotics). Future perspectives that allow a more full description of the gut biodiversity and accurately monitor changes in response to diet, will help to determine the role of probiotics, prebiotics and synbiotics in health promotion.

AN 1998:755403 HCPLUS <<LOGINID::20090130>>

DN 130:138626

TI An overview of probiotics, prebiotics and synbiotics in the functional food concept: perspectives and future strategies

AU Ziemer, Cherie J.; Gibson, Glenn R.

CS Institute of Food Research, Earley Gate, Reading, RG6 6BZ, UK

SO International Dairy Journal (1998), 8(5/6), 473-479

CODEN: IDAJE6; ISSN: 0958-6946

PB Elsevier Science Ltd.

DT Journal; General Review

LA English

RE.CNT 39 THERE ARE 39 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 40 OF 40 HCPLUS COPYRIGHT 2009 ACS on STN

TI Immunonutrition: role of biosurfactants, fiber, and probiotic bacteria

AB A review with 137 refs. Phospholipids constitute an important part of cellular membranes, and membrane fluidity and permeability are dependent on the fatty acid composition of the phospholipid. The composition, which changes

with aging and disease is, to a large degree, influenced by nutrient supply. Phospholipids have been effective in protecting cellular membranes such as those of the gastrointestinal tract to an extent not much different from that observed with external supply of established mucosa-protective drugs such as misoprostol and sucralfate. Polar lipids have also been shown to be effective in preventing microbial translocation. The effect is further potentiated by an external supply of probiotic fibers such as pectin, guar gum, and oat gum. These and many other fibers also have documented strong mucosa preventive effects. Prebiotic bacteria such as *Lactobacillus plantarum* have demonstrated a strong ability to preserve food and prevent spoilage. In addition, *L. plantarum* seems to not only preserve key nutrients such as ω-3 fatty acids, but also increases its content during storage conditions. *L. plantarum* alone or in combination with various fibers has demonstrated a strong ability to reduce and eliminate potentially pathogenic microorganisms both in vitro and in vivo. It has recently been shown that *L. plantarum* possesses the ability to adhere to and colonize intestinal mucosa. It seems unique among the lactobacilli for *L.*

plantarum to use mannose-specific adhesins, uncommon among gram-pos., but common among gram-neg. bacteria, which makes it possible that *L. plantarum* competes with gram-neg. potential pathogens for receptor sites at the mucosal cell surfaces. Addnl., *L. plantarum* seems to be effective in eliminating nitrate and producing nitric oxide. These functions of *L. plantarum* are among the reasons why it has been used in combination with various fibers and polar lipids to recondition the gastrointestinal mucosa. For the purpose of a *L. plantarum*-containing formula being produced and tried, a treatment policy is regarded as an extension of the immunonutrition program and called ecoimmunonutrition.

AN 1998:523538 HCAPLUS <<LOGINID::20090130>>  
DN 129:244453  
OREF 129:49767a,49770a  
TI Immunonutrition: role of biosurfactants, fiber, and probiotic bacteria  
AU Bengmark, Stig  
CS Ideon Research Center, Lund University, Lund, 5223-70, Swed.  
SO Nutrition (New York) (1998), 14(7/8), 585-594  
CODEN: NUTRER; ISSN: 0899-9007  
PB Elsevier Science Inc.  
DT Journal; General Review  
LA English  
RE.CNT 137 THERE ARE 137 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> d his

(FILE 'HOME' ENTERED AT 14:43:33 ON 30 JAN 2009)

FILE 'HCAPLUS' ENTERED AT 14:43:55 ON 30 JAN 2009

L1 32931 S OLIGOSACCHARIDE  
L2 114856 S MANNO OR MANNOSE OR ISOMALTO OR ISOMALTOSE OR GENTIO OR GENTI  
L3 6385 S L1 AND L2  
L4 76010 S CAESINOGLYCOMACROPEPTIDE OR GUAR OR GALACTOMANNAN OR LACTOSE  
L5 81984 S L3 OR L4  
L6 172759 S PREBIOTIC OR ENTERIC OR GUT OR INTESTINAL  
L7 3858 S L5 AND L6  
L8 2624 S L7 AND (PY<2003 OR AY<2003 OR PRY<2003)  
L9 40 S L8 AND PREBIOTIC

=> log hold

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	132.50	132.72
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-31.98	-31.98

SESSION WILL BE HELD FOR 120 MINUTES  
STN INTERNATIONAL SESSION SUSPENDED AT 14:47:09 ON 30 JAN 2009

Connecting via Winsock to STN

Welcome to STN International! Enter x:x

LOGINID:SSPTAEX01623

PASSWORD:

\* \* \* \* \* RECONNECTED TO STN INTERNATIONAL \* \* \* \* \*

SESSION RESUMED IN FILE 'HCAPLUS' AT 16:14:37 ON 30 JAN 2009  
FILE 'HCAPLUS' ENTERED AT 16:14:37 ON 30 JAN 2009  
COPYRIGHT (C) 2009 AMERICAN CHEMICAL SOCIETY (ACS)

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	132.50	132.72
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-31.98	-31.98

=> s caseinoglycomacropeptide or glycomacropeptide  
16 CASEINOGLYCOMACROPEPTIDE  
244 GLYCOMACROPEPTIDE  
L10 257 CASEINOGLYCOMACROPEPTIDE OR GLYCOMACROPEPTIDE

=> s caseinoglycomacropeptide  
L11 16 CASEINOGLYCOMACROPEPTIDE

=> s l11 and (PY<2003 or AY<2003 or PRY<2003)  
22983114 PY<2003  
4503368 AY<2003  
3972163 PRY<2003  
L12 14 L11 AND (PY<2003 OR AY<2003 OR PRY<2003)

=> d 112 1-14 ti abs bib

L12 ANSWER 1 OF 14 HCAPLUS COPYRIGHT 2009 ACS on STN  
TI Sugar-based compositions containing caseinoglycomacropeptide  
AB The invention relates to a sugar-based composition which contains caseinoglycomacropeptide (CGMP) and/or its derivs., the product having a beneficial impact on oral health, and in particular an inhibitory effect on caries and dentinal fissure lesions. Thus, a chewing gum was prepared from CMCGMP 5, sucrose 67.5, gum base 20, CaCO<sub>3</sub> 5, glycerin 3, Pluronic-F127 2, cellulose gum 1, Balast compds. 0.5, and flavor 1%.

AN 2002:964101 HCAPLUS <<LOGINID::20090130>>

DN 138:29140

TI Sugar-based compositions containing caseinoglycomacropeptide

IN Neeser, Jean-Richard; Guggenheim, Bernhard; Fern, Edward Brian

PA Societe des Produits Nestle S.A., Switz.

SO PCT Int. Appl., 18 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	---	-----	-----	-----
PI WO 2002100181	A2	20021219	WO 2002-EP5830	20020527 <--
WO 2002100181	A3	20040212		
W: AE, AG, AL, AM, AU, BB, BG, BR, CA, CN, CO, CR, CU, CZ, DM, DZ, EC, GD, GE, HU, ID, IL, IN, IS, JP, KP, KR, LC, LK, LR, LS, MA, MG, MN, MW, MX, NO, NZ, OM, PH, PL, RO, RU, SD, SG, SK, SL, TN, TR, TT, TZ, UA, UG, US, VN, ZA				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA,				

GN, GQ, GW, ML, MR, NE, SN, TD, TG  
 AU 2002345773 A1 20021223 AU 2002-345773 20020527 <--  
 PRAI EP 2001-202208 A 20010608 <--  
 WO 2002-EP5830 W 20020527 <--  
 RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 2 OF 14 HCPLUS COPYRIGHT 2009 ACS on STN  
 TI Bone health compositions derived from milk  
 AB The invention relates to bone health compns. comprising an acidic protein fraction of milk, to a method of producing the bone health composition, to methods of treatment comprising the bone health compns. and to medicinal uses of the compns. One broad aspect of the invention provides a bone health composition comprising an acidic protein fraction derived from milk, from a component of milk, from whey, from hydrolyzates, or from a combination, or from a combination wherein the composition does not comprise caseinoglycomacropeptide (CGMP). Another broad aspect provides a method of manufacturing the composition of the invention by using anion exchange chromatog. A solution of mineral acid whey protein concentrate (Alacen 342) at 10% solids and pH 4.5 was passed through a column of Q-Sepharose BB. The column was washed with water and eluted with a pH 6.0n1.0M solution of sodium chloride. The acidic protein fraction eluted from the column was concentrated 6.25-fold by using an Amicon 3K NMCO ultrafiltration unit. The concentrated protein retentate was dialyzed against water and then freeze dried. The dry product had a content of 79% protein, <0.5% calcium, approx. 1.0% phosphorous and 6.0% sialic acid. Osteopontin,  $\alpha$ -s1-casein fragments, sialylated and/or phosphorylated minor proteins, proteose peptones 5 and 3, and peptides derived from these proteins were present in the acidic protein fraction recovered from mineral acid whey.

AN 2002:275810 HCPLUS <>LOGINID::20090130>>  
 DN 136:299740  
 TI Bone health compositions derived from milk  
 IN Reid, Ian Reginald; Cornish, Jill; Haggarty, Neill Ward; Palmano, Kate  
 PA New Zealand Dairy Board, N. Z.  
 SO PCT Int. Appl., 33 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2002028413	A1	20020411	WO 2001-NZ200	20010927 <--
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
NZ	507335	A	20041029	NZ 2000-507335	20001005 <--
AU	2001090388	A	20020415	AU 2001-90388	20010927 <--
EP	1328286	A1	20030723	EP 2001-970387	20010927 <--
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
HU	2003002304	A2	20031028	HU 2003-2304	20010927 <--
HU	2003002304	A3	20040301		
BR	2001014471	A	20040113	BR 2001-14471	20010927 <--

JP 2004510742	T	20040408	JP 2002-532237	20010927 <--
AU 2001290388	B2	20040617	AU 2001-290388	20010927 <--
TW 271154	B	20070121	TW 2001-90124531	20011004 <--
KR 846011	B1	20080711	KR 2003-704843	20030404 <--
US 20040052860	A1	20040318	US 2003-398628	20031010 <--
PRAI NZ 2000-507335	A	20001005	<--	
WO 2001-NZ200	W	20010927	<--	

RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 3 OF 14 HCAPLUS COPYRIGHT 2009 ACS on STN  
TI caseinoglycomacropeptide for inhibiting adhesion of the pathogenic flora of the skin  
AB The invention relates to the use of a casein derivative for the preparation of a composition for cosmetic, pharmaceutical or veterinary use, intended to be administered to humans or to animals for the purpose of preventing or treating disorders induced by the pathogens of the cutaneous system. Casineoglycomacropeptides were obtained from bovine whey and included in cosmetic and pharmaceutical formulations.

AN 2002:71895 HCAPLUS <<LOGINID::20090130>>

DN 136:123677

TI caseinoglycomacropeptide for inhibiting adhesion of the pathogenic flora of the skin

IN Neeser, Jean-Richard; Auzanneau, Isabelle

PA Societe des Produits Nestle S.A., Switz.

SO PCT Int. Appl., 23 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	-----	-----	-----	-----
PI	WO 2002005839	A1	20020124	WO 2001-EP7293	20010628 <--
	W: AE, AU, BR, CA, CN, CO, CR, CZ, DM, HU, ID, IL, IN, JP, KR, MA, MX, NO, NZ, PL, SG, TR, US, ZA, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	CA 2415918	A1	20020124	CA 2001-2415918	20010628 <--
	EP 1303295	A1	20030423	EP 2001-967094	20010628 <--
	EP 1303295	B1	20060913		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY, TR				
	JP 2004503597	T	20040205	JP 2002-511771	20010628 <--
	AT 339217	T	20061015	AT 2001-967094	20010628 <--
	ES 2272535	T3	20070501	ES 2001-967094	20010628 <--
	US 20030161850	A1	20030828	US 2003-332879	20030418 <--
PRAI	EP 2000-115274	A	20000714	<--	
	WO 2001-EP7293	W	20010628	<--	

RE.CNT 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 4 OF 14 HCAPLUS COPYRIGHT 2009 ACS on STN  
TI Use of a milk protein hydrolysate in the treatment of diabetes  
AB Use of a milk protein hydrolyzate which is preferably a whey protein hydrolyzate or caseinoglycomacropeptide (CGMP) in a bioavailable form in the manufacture of a composition for the treatment or prevention of diabetes or syndrome X and a method of treatment or prevention of diabetes or syndrome X are described. The present invention also relates to a method

for assessing proglucagon gene expression and GLP-1 release by a cell line derived from an adenocarcinoma of human cecum.

AN 2001:396682 HCPLUS <<LOGINID::20090130>>

DN 134:361380

TI Use of a milk protein hydrolysate in the treatment of diabetes

IN Reimer, Raylene; Darimont-nicolau, Christian; Mace, Katherine; Gremlich, Sandrine; Neeser, Jean-richard

PA Societe Des Produits Nestle S.A., Switz.

SO PCT Int. Appl., 27 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001037850	A2	20010531	WO 2000-EP10716	20001027 <--
	WO 2001037850	A3	20020110		
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	EP 1235585	A2	20020904	EP 2000-977445	20001027 <--
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL				
	US 20030004095	A1	20030102	US 2002-153531	20020521 <--
	US 20050186558	A1	20050825	US 2005-110093	20050419 <--
PRAI	GB 1999-27603	A	19991122	<--	
	WO 2000-EP10716	W	20001027	<--	
	US 2002-153531	A3	20020521	<--	

RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 5 OF 14 HCPLUS COPYRIGHT 2009 ACS on STN

TI Capillary electrophoresis and high-performance anion exchange chromatography for monitoring caseinoglycomacropeptide sialylation

AB Capillary zone electrophoresis was applied to sep. caseinoglycomacropeptide glycoforms and characterize microheterogeneity of the glycopeptide. Particular attention was paid to the sialic acid content in caseinoglycomacropeptide obtained through different manufacturing processes. A chemometric approach was used to simultaneously study effects of acid concentration, hydrolysis time and temperature on sialic acid release from caseinoglycomacropeptide. Hydrolysis conditions that maximize sialic acid release were chosen. Sialic acid was determined using high performance anion exchange chromatog. coupled with pulsed amperometric detection. Results were compared to those obtained by alternative techniques, such as colorimetric and enzymic methods.

AN 2001:182557 HCPLUS <<LOGINID::20090130>>

DN 134:323084

TI Capillary electrophoresis and high-performance anion exchange chromatography for monitoring caseinoglycomacropeptide sialylation

AU Daali, Y.; Cherkaoui, S.; Veuthey, J.-L.

CS Laboratory of Pharmaceutical Analytical Chemistry, University of Geneva, Geneva, 1211, Switz.

SO Journal of Pharmaceutical and Biomedical Analysis (2001),  
24(5-6), 849-856  
CODEN: JPBADA; ISSN: 0731-7085

PB Elsevier Science B.V.

DT Journal

LA English

RE.CNT 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 6 OF 14 HCAPLUS COPYRIGHT 2009 ACS on STN

TI Milk protein hydrolysate for addressing a bone or dental disorder

AB A composition for prevention or treatment of a bone or dental disorder comprises a milk protein hydrolysate, use of the milk protein hydrolysate in the manufacture of a composition for the treatment or prevention of a bone

or

dental disorder, and a method of treatment which comprises administering an effective amount of a milk protein hydrolysate. In preferred embodiments the milk protein hydrolysate is a hydrolysate of casein, in particular a caseinoglycomacropeptide (CGMP), a mimetic, homolog or fragment thereof in a bioavailable form which retains the ability of CGMP to inhibit bone resorption or bone loss; or favor calcium absorption, retention or calcification; or a combination thereof.

AN 2000:608529 HCAPLUS <<LOGINID::20090130>>

DN 133:183024

TI Milk protein hydrolysate for addressing a bone or dental disorder

IN Neeser, Jean-Richard; Offord Cavin, Elizabeth; Felix, Rolf;  
Tullberg-Reinert, Heidi; Ginty, Fiona; Barclay, Denis; Muhlbauer, Roman

PA Societe des Produits Nestle S.A., Switz.

SO PCT Int. Appl., 30 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000049885	A1	20000831	WO 2000-EP1562	20000225 <--
	W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	EP 1062876	A1	20001227	EP 1999-200544	19990225 <--
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	CA 2360490	A1	20000831	CA 2000-2360490	20000225 <--
	EP 1154701	A1	20011121	EP 2000-910712	20000225 <--
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	BR 2000008427	A	20020129	BR 2000-8427	20000225 <--
	JP 2002537313	T	20021105	JP 2000-600503	20000225 <--
	MX 2001006822	A	20011001	MX 2001-6822	20010703 <--
	ZA 2001007831	A	20021223	ZA 2001-7831	20010921 <--
PRAI	EP 1999-200544	A	19990225 <--		
	WO 2000-EP1562	W	20000225 <--		

RE.CNT 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 7 OF 14 HCAPLUS COPYRIGHT 2009 ACS on STN

TI Determination of the stability of caseinoglycomacropeptide in a cosmetic lotion by use of capillary zone electrophoresis with a coated capillary  
AB A capillary zone electrophoretic method is described for the determination of a caseinoglycomacropeptide. The optimized conditions employed a poly(vinyl alc.)-coated capillary and 50 mM phosphate buffer at pH 2.5 to enable baseline separation of several glyco forms. The method was validated and performance was good in terms of precision (both peak area and migration time), selectivity, linearity, and accuracy. The method was used to determine caseinoglycomacropeptide (2% weight/weight) in a cosmetic lotion. The validated method was finally used to monitor the stability of this caseinoglycomacropeptide in the cosmetic lotion over a period of four months.  
AN 1999:652461 HCPLUS <<LOGINID::20090130>>  
DN 131:262481  
TI Determination of the stability of caseinoglycomacropeptide in a cosmetic lotion by use of capillary zone electrophoresis with a coated capillary  
AU Cherkaoui, S.; Pitre, F.; Neeser, J.-R.; Veuthey, J.-L.  
CS Laboratory Pharmaceutical Analytical Chemistry, Univ. Geneva, Geneva, CH-1211, Switz.  
SO Chromatographia (1999), 50(5/6), 311-316  
CODEN: CHRGP7; ISSN: 0009-5893  
PB Friedrich Vieweg & Sohn Verlagsgesellschaft mbH  
DT Journal  
LA English  
RE.CNT 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 8 OF 14 HCPLUS COPYRIGHT 2009 ACS on STN  
TI Development of a capillary zone electrophoresis method for caseinoglycomacropeptide determination  
AB Caseinoglycomacropeptide (CGMP) is a polypeptide of 64 amino acid residues, derived from the C-terminal part of bovine  $\kappa$ -casein. A sensitive and selective capillary zone electrophoresis method has been developed and validated for the anal. and quantitation of CGMP. Separation is carried out at 30 kV, using an uncoated fused-silica capillary and 20 mM sodium citrate buffer at acidic pH 3.5. The described method allows the separation of various CGMP subcomponents. The validation data proves that the method has the requisite selectivity, sensitivity, reproducibility and linearity for CGMP assay and for quality control during CGMP manufacturing (batch-to-batch reproducibility).  
AN 1997:734279 HCPLUS <<LOGINID::20090130>>  
DN 128:151329  
OREF 128:29729a,29732a  
TI Development of a capillary zone electrophoresis method for caseinoglycomacropeptide determination  
AU Cherkaoui, Samir; Doumenc, Nathalie; Tachon, Pierre; Neeser, Jean-Richard; Veuthey, Jean-Luc  
CS Boulevard d'Yvoy 20, Laboratory of Pharmaceutical Analytical Chemistry, University of Geneva, 1211 Geneva 4, Switz.  
SO Journal of Chromatography, A (1997), 790(1 + 2), 195-205  
CODEN: JCRAEY; ISSN: 0021-9673  
PB Elsevier Science B.V.  
DT Journal  
LA English

L12 ANSWER 9 OF 14 HCPLUS COPYRIGHT 2009 ACS on STN  
TI Incorporation of caseinoglycomacropeptide and caseinophosphopeptide into the salivary pellicle inhibits adherence of mutans streptococci

AB The protective effects of milk and milk products against dental caries have been demonstrated in many animal studies. We have shown that this effect was mediated by micellar casein or caseinopeptide derivs. A reduction in the *Streptococcus sobrinus* population in the oral microbiota of animals fed diets supplemented with these milk components was consistently observed. A possible explanation for these findings is that milk components are incorporated into the salivary pellicle, thereby reducing the adherence of *S. sobrinus*. This hypothesis was tested in vitro by the incubation of bovine enamel disks with unstimulated saliva. The resulting pellicle was washed and incubated with caseinoglycomacropeptide (CGMP) and/or caseinophosphopeptide (CPP) labeled with 17- and 12-nm gold particles. All samples were prepared for electron microscopy by high-pressure freezing followed by freeze-substitution. It was demonstrated by high-resolution SEM with back-scattered electron imaging, as well as by TEM, that both peptides were incorporated into the pellicle in exchange for albumin, confirming previous findings. This protein was identified with a mouse anti-human serum albumin followed by goat anti-mouse IgG labeled with 25-nm gold particles. Incorporation of CGMP and/or CPP into salivary pellicles reduced the adherence of both *S. sobrinus* and *S. mutans* significantly. It is suggested that the calcium-and phosphate-rich micellar casein or caseinopeptides are incorporated into the pellicle. The resulting ecol. shifts, together with the increased remineralization potential of this biofilm, may explain its modified cariogenic potential.

AN 1997:25629 HCPLUS <<LOGINID::20090130>>

DN 126:73067

OREF 126:14105a, 14108a

TI Incorporation of caseinoglycomacropeptide and caseinophosphopeptide into the salivary pellicle inhibits adherence of mutans streptococci

AU Schupbach, P.; Neeser, J. R.; Golliard, M.; Rouvet, M.; Guggenheim, B.

CS Institute Oral Microbiology and General Immunology, University Zurich, Zurich, CH-8028, Switz.

SO Journal of Dental Research (1996), 75(10), 1779-1788

CODEN: JDREAF; ISSN: 0022-0345

PB International Association for Dental Research

DT Journal

LA English

RE.CNT 59 THERE ARE 59 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 10 OF 14 HCPLUS COPYRIGHT 2009 ACS on STN

TI In vitro modulation of oral bacterial adhesion to saliva-coated hydroxyapatite beads by milk casein derivatives

AB Bovine caseinate, derivs. of its glycosylated moiety [caseinoglycomacropeptide (CGP)], and caseinophosphopeptides were evaluated as inhibitors of adhesion of oral bacteria to saliva-coated hydroxyapatite beads (S-HA). All milk casein-derived components behaved as potent inhibitors of *Streptococcus sanguis* OMZ 9 and *Streptococcus sobrinus* OMZ 176 adhesion to S-HA, whereas neither bovine serum albumin nor polyethyleneglycol were able to interfere with the adhesion of these strains. By contrast, none of the mol. species tested was able to inhibit the attachment of *Actinomyces viscosus* Ny 1 to S-HA. On the other hand, casein derivs. were shown to displace human serum albumin from S-HA beads. They were also able to bind to the bacterial cell surface of all strains examined. Collectively, these findings suggest that interactions between acidic casein-derived milk components and the biol. surfaces involved in bacterial adhesion to S-HA result in an inhibitory effect that is selective for the oral streptococci examined

AN 1994:651086 HCPLUS <<LOGINID::20090130>>

DN 121:251086

OREF 121:45743a, 45746a

TI In vitro modulation of oral bacterial adhesion to saliva-coated hydroxyapatite beads by milk casein derivatives  
AU Neeser, J-R; Golliard, M; Woltz, A; Rouvet, M; Dillmann, M-L; Guggenheim, B  
CS Nestle Research Centre, Nestec Limited, Lausanne, Switz.  
SO Oral Microbiology and Immunology (1994), 9(4), 193-201  
CODEN: OMIMEE; ISSN: 0902-0055  
DT Journal  
LA English

L12 ANSWER 11 OF 14 HCAPLUS COPYRIGHT 2009 ACS on STN  
TI Oligosaccharides and glycoproteins in bovine milk and colostrum  
AB A review with 85 refs. This report presents a brief summary of the occurrence of glycoproteins in bovine milk and colostrum, with emphasis on their oligosaccharide structure. Glycoproteins discussed are  $\kappa$ -casein and the caseinoglycomacropeptide, Igs, lactoferrin, fibronectin, glyco- $\alpha$ -lactalbumin, M-1 acidic glycoprotein, fat globule membrane glycoproteins, proteose-peptone glycoproteins and lactoperoxidase. An overview of the free oligosaccharides found in bovine milk and colostrum is also given.

AN 1994:506730 HCAPLUS <<LOGINID::20090130>>

DN 121:106730

OREF 121:19251a,19254a

TI Oligosaccharides and glycoproteins in bovine milk and colostrum

AU Hall, David W.

CS Gracefield Res. Cent., Lower Hutt, Neth.

SO Ind. Res. Ltd. Rep. (1994), 165, 28 pp.

CODEN: IRLRED

DT Report; General Review

LA English

L12 ANSWER 12 OF 14 HCAPLUS COPYRIGHT 2009 ACS on STN

TI Characterization of bovine colostral proteins with inhibitory activity in passive cutaneous anaphylaxis.

AB Addition of skim milk prepared from bovine colostrum to rabbit antiroyal jelly protein antiserum inhibited passive cutaneous anaphylactic reaction (PCA) in guinea pigs. The inhibitory components were identified as  $\kappa$ -casein and lactoferrin. Both  $\kappa$ -casein and lactoferrin did not antigenically react with the rabbit antiroyal jelly protein antiserum. The inhibitory activity was not detected in  $\kappa$ -caseinoglycomacropeptide (residues 106-169).  $\kappa$ -Casein showed increased inhibitory activity when S-carboxymethylated after reduction with 2-mercaptoethanol, and showed decreased inhibitory activity when digested with chymotrypsin. Apolactoferrin inhibited the PCA reaction, while iron-saturated lactoferrin did not. The inhibitory activity of apolactoferrin increased by pepsin digestion.  $\kappa$ -Casein, apolactoferrin and pepsin-digest of lactoferrin inhibited the PCA reaction not only when these proteins were administered simultaneously with the sensitizing antiserum but also when injected together with the antigen. Thus,  $\kappa$ -casein and lactoferrin act on the release phase of vasoactive amine or later phase during passive cutaneous anaphylactic reaction.

AN 1994:268604 HCAPLUS <<LOGINID::20090130>>

DN 120:268604

OREF 120:47567a

TI Characterization of bovine colostral proteins with inhibitory activity in passive cutaneous anaphylaxis.

AU Otani, H.; Yamada, Y.

CS Fac. Agric., Shinshu Univ., Minamiminowa, 399-45, Japan

SO Milchwissenschaft (1994), 49(1), 20-4

CODEN: MILCAD; ISSN: 0026-3788

DT Journal  
LA English

L12 ANSWER 13 OF 14 HCAPLUS COPYRIGHT 2009 ACS on STN  
TI Specific and nonspecific inhibition of adhesion of oral actinomyces and streptococci to erythrocytes and polystyrene by caseinoglycopeptide derivatives  
AB Various caseinoglycopeptide derivs. prepared from mammalian milk were evaluated as inhibitors of hemagglutinations mediated by *Actinomyces viscosus* Nyl, *Streptococcus sanguis* OMZ9, and, for comparative purposes, plant lectins from *Arachis hypogaea* and *Bauhinia purpurea*. It was found that recognition of the  $\beta$ -D-galactose-(1 $\rightarrow$ 3)-2-acetamido-2-deoxy-D-galactose carbohydrate chain by *Actinomyces viscosus* Nyl organisms and *Arachis hypogaea* and *B. purpurea* agglutinins had similar structural requirements; in all cases, the desialylated bovine caseinoglycomacropeptide, on which several units of the above mentioned disaccharide are clustered, behaved as the most potent hemagglutination inhibitor. By contrast, none of the preps. tested inhibited erythrocyte agglutination by *S. sanguis* OMZ9. Thus, the desialylated bovine caseinoglycomacropeptide acts as a potent and specific inhibitor of oral *Actinomyces* adhesion to cell membranes (a soft surface) and could be used as a probe for the study of recognition mechanisms mediated by *Actinomyces* galactose-binding lectins. Both native and desialylated variants of the same bovine glycomacropeptide also totally prevented the adhesion of *Acinomyces viscosus* Nyl, *S. sanguis* OMZ9, and *S. mutans* OMZ176 to polystyrene surfaces. Neither mono- nor disaccharides related to caseinoglycopeptide carbohydrates prevented adhesion; highly pos. or neg. charged polypeptides and polysaccharides were either not or only moderately active. Besides these glycomacropeptides, an inhibitory activity was also exhibited by other mucin-type glycoproteins carrying short O-linked carbohydrate chains (including bovine submaxillary mucin), polyethylene glycol, and bovine serum albumin. Consequently, caseinoglycopeptide prevention of oral bacterial adhesion to polystyrene tubes (a hard surface) takes place with no species specificity and can be compared to nonspecific inhibition exhibited by various polymers with very different structural characteristics.

AN 1989:72413 HCAPLUS <>LOGINID::20090130>>  
DN 110:72413  
OREF 110:11891a,11894a  
TI Specific and nonspecific inhibition of adhesion of oral actinomyces and streptococci to erythrocytes and polystyrene by caseinoglycopeptide derivatives  
AU Neeser, Jean Richard; Chambaz, Arlette; Del Vedovo, Simone; Prigent, Marie Jose; Guggenheim, Bernhard  
CS Nestle Res. Cent., Nestec-Ltd., Vers-chez-les-Blanc, CH-1000, Switz.  
SO Infection and Immunity (1988), 56(12), 3201-8  
CODEN: INFIBR; ISSN: 0019-9567  
DT Journal  
LA English

L12 ANSWER 14 OF 14 HCAPLUS COPYRIGHT 2009 ACS on STN  
TI Studies on human  $\alpha$ s- and  $\kappa$ -casein fractions and human caseinoglycomacropeptide  
AB Fractions have been obtained from human whole casein closely resembling the  $\alpha$ s- and  $\kappa$ -fractions of cow casein. The  $\alpha$ s-fraction (human  $\alpha$ s-casein) is Ca-sensitive, heterogeneous in zone analysis, and inert towards rennin. The  $\kappa$ -fraction (human  $\kappa$ -casein) is Ca-insensitive, heterogeneous in zone analysis, and forms a soluble glycopeptide when acted upon by rennin. Human  $\kappa$ -casein stabilizes human  $\alpha$ s-casein in the presence of Ca<sup>2+</sup>. The glycopeptides released

by rennin from human casein and from cow casein have been compared. There are important differences in both the peptide and nonpeptide structures of the 2 compounds. In both human and bovine glycopeptides some of the carbohydrate residues are joined to the peptide by O-glycosidic links with threonine, and possibly with serine.

AN 1966:509294 HCAPLUS <<LOGINID::20090130>>  
DN 65:109294  
OREF 65:20396g-h,20397a  
TI Studies on human  $\alpha$ - and  $\kappa$ -casein fractions and human caseinoglycomacropeptide  
AU Malpress, F. H.; Seid-Akhavan, M.  
CS Queen's Univ., Belfast, N. Ire.  
SO Biochemical Journal (1966), 101, 764-73  
CODEN: BIJOAK; ISSN: 0264-6021  
DT Journal  
LA English

=> s chitooligosaccharide or (chito-oligosaccharide) or chitotriose or chitotetraose or chitopentose or chitohexose

529 CHITOOLIGOSACCHARIDE  
374 CHITO  
32931 OLIGOSACCHARIDE  
91 CHITO-OLIGOSACCHARIDE  
(CHITO(W)OLIGOSACCHARIDE)  
306 CHITOTRIOSE  
196 CHITOTETRAOSE  
14 CHITOPENTOSE  
11584 OT  
11 CHITOHEXOSE  
0 CHITOPENTOSE OT CHITOHEXOSE  
(CHITOPENTOSE(W)OT(W)CHITOHEXOSE)  
L13 944 CHITOOLIGOSACCHARIDE OR (CHITO-OLIGOSACCHARIDE) OR CHITOTRIOSE  
OR CHITOTETRAOSE OR CHITOPENTOSE OT CHITOHEXOSE

=> s chitooligosaccharide or (chito-oligosaccharide) or chitotriose or chitotetraose or chitopentose or chitohexose

529 CHITOOLIGOSACCHARIDE  
374 CHITO  
32931 OLIGOSACCHARIDE  
91 CHITO-OLIGOSACCHARIDE  
(CHITO(W)OLIGOSACCHARIDE)  
306 CHITOTRIOSE  
196 CHITOTETRAOSE  
14 CHITOPENTOSE  
11 CHITOHEXOSE  
L14 953 CHITOOLIGOSACCHARIDE OR (CHITO-OLIGOSACCHARIDE) OR CHITOTRIOSE  
OR CHITOTETRAOSE OR CHITOPENTOSE OR CHITOHEXOSE

=> s prebiotic

L15 4563 PREBIOTIC

=> s l14 and l15

L16 0 L14 AND L15

=> s gut or microflora or intestinal

32607 GUT  
13802 MICROFLORA  
133137 INTESTINAL  
L17 166445 GUT OR MICROFLORA OR INTESTINAL

=> s 114 and 117  
L18 15 L14 AND L17

=> s 118 and (PY<2003 or AY<2003 or PRY<2003)  
22983114 PY<2003  
4503368 AY<2003  
3972163 PRY<2003  
L19 7 L18 AND (PY<2003 OR AY<2003 OR PRY<2003)

=> d 119 1-7 ti abs bib

L19 ANSWER 1 OF 7 HCPLUS COPYRIGHT 2009 ACS on STN  
TI Effects of chitooligosaccharides on blood glucose and intestinal flora in diabetic mice  
AB The effects of chitooligosaccharides on the blood glucose content and the intestinal flora in STZ (streptozotocin)-diabetic mice were studied. The STZ mice were divided into 2 groups: diabetic treatment group and a diabetic control group. The former mice received (i.g.) chitooligosaccharides at a dose of 600 mg/kg daily for 21 days and the latter received the equal volume of distilled water. The level of blood glucose and the nos. of intestinal flora were measured. The blood glucose level in the diabetic treatment group was reduced by chitooligosaccharides and the number of bifidobacterium was significantly higher than that in STZ-diabetic mice without treatment. Thus, chitooligosaccharides could decrease the blood glucose level in diabetic mice and modulate the function of intestinal flora in mice to the benefit of the host.  
AN 2001:931742 HCPLUS <<LOGINID::20090130>>  
DN 137:134827  
TI Effects of chitooligosaccharides on blood glucose and intestinal flora in diabetic mice  
AU Ren, Lin; Li, Bangliang; Gao, Shiying; Chen, Chaoqun; Li, Mulan  
CS Department of Clinical Laboratory, No. 1 Affiliated Hospital, Nan hua University, Hengyang, 421001, Peop. Rep. China  
SO Zhongguo Shenghua Yaowu Zazhi (2001), 22(5), 227-229  
CODEN: ZSYZFP; ISSN: 1005-1678  
PB Zhongguo Shenghua Yaowu Zazhi Bianjibu  
DT Journal  
LA Chinese

L19 ANSWER 2 OF 7 HCPLUS COPYRIGHT 2009 ACS on STN  
TI Lectin-mediated bioadhesion: preparation, stability and Caco-2 binding of wheat germ agglutinin-functionalized poly(D,L-lactic-co-glycolic acid)-microspheres  
AB To take advantage of the cytoadhesive characteristics of Wheat germ agglutinin (WGA) for improved particulate drug delivery, the interaction between WGA-grafted poly(DL-lactic-co-glycolic acid)-microspheres and Caco-2 monolayers was investigated using bovine serum albumin (BSA) or glycine coated microspheres as a control. Covalent immobilization of WGA by the carbodiimide/N-hydroxysuccinimide-method on 4  $\mu$ m microspheres yielded a surface d. of  $9.67 \pm 1.21$  + 106 mols./particle, whereas  $0.22 \pm 0.04$  + 106 WGA-mols. were bound by phys. adsorption. After storage for 21 days in HEPES-buffer and treatment of the particles with 5 M urea, 86% of covalently linked lectin was still attached to the particles. At 4°C the Caco-2 binding rate of both, WGA- and BSA-modified particles increased with addition of increasing nos. of particles until saturation was reached at  $38150 \pm 1740$  (WGA) or  $12066 \pm 1195$  (BSA) microspheres bound/mm<sup>2</sup> Caco-2 monolayer. Inhibition of Caco-2 binding of WGA-functionalized microspheres by chitotriose indicated for specificity of the interaction. As observed by confocal laser scanning microscopy, the fluorescein-loading of the particles was

accumulated intracellularly after incubation of Caco-2 monolayers with WGA-modified microspheres contrary to glycine-grafted microspheres. Addnl., in case of WGA-functionalized microspheres the amount of cell associated fluorescein was 200-fold higher than that of the free solution In conclusion, WGA-modified microspheres are expected to enhance intestinal transport of incorporated drugs due to cytoadhesion provided by the lectin coating.

AN 2000:552428 HCPLUS <>LOGINID::20090130>>

DN 133:286314

TI Lectin-mediated bioadhesion: preparation, stability and Caco-2 binding of wheat germ agglutinin-functionalized poly(D,L-lactic-co-glycolic acid)-microspheres

AU Ertl, Bernhard; Heigl, Franziska; Wirth, Michael; Gabor, Franz  
CS Institute of Pharmaceutical Technology and Biopharmaceutics, The University of Vienna, Vienna, A-1090, Austria

SO Journal of Drug Targeting (2000), 8(3), 173-184  
CODEN: JDTAEH; ISSN: 1061-186X

PB Harwood Academic Publishers

DT Journal

LA English

RE.CNT 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L19 ANSWER 3 OF 7 HCPLUS COPYRIGHT 2009 ACS on STN

TI Characterization and inhibitor studies of chitinases from a parasitic blowfly (*Lucilia cuprina*), a tick (*Boophilus microplus*), an intestinal nematode (*Haemonchus contortus*) and a bean (*Phaseolus vulgaris*)

AB The mol. weight pattern and the stage-specific activities of chitinases from *L. cuprina*, *B. microplus* and *H. contortus*, were examined Chitinolytic enzymes could be detected in all species, but the activity was different between the stages. Highest chitinolytic titers were found in blowfly pupae (83 kDa, 118 kDa), hatching larvae of ticks (58 kDa, 94 kDa) and nematode eggs (43 kDa). Leaves from ethylene-treated bean *P. vulgaris* expressed two basic Class I chitinases (Ia, Ib) of 34 kDa, differing in their amino acid sequences at residue 33 and 34 (Ia: glycine, proline; Ib: lysine, aspartic acid). Inhibitor studies with blowfly pupae revealed that allosamidin ( $IC_{50} = 0.32 (\pm 0.02) \mu M$ ) was by far the best inhibitor when compared with various amino sugar derivs. This compound also inhibited chitinases from tick larvae ( $IC_{50} = 0.69 (\pm 0.10) \mu M$ ) and nematode eggs ( $IC_{50} = 0.048 (\pm 0.0045) \mu M$ ) specifically. Whereas Class Ia chitinase from bean leaves was inhibited only up to 18% by 10  $\mu M$  allosamidin, it had an  $IC_{50}$  of  $1 (\pm 0.14) \mu M$  for the Ib type, which is the first plant chitinase described to be highly sensitive to allosamidin.

AN 1997:39041 HCPLUS <>LOGINID::20090130>>

DN 126:72737

OREF 126:14025a,14028a

TI Characterization and inhibitor studies of chitinases from a parasitic blowfly (*Lucilia cuprina*), a tick (*Boophilus microplus*), an intestinal nematode (*Haemonchus contortus*) and a bean (*Phaseolus vulgaris*)

AU Londershausen, Michael; Turberg, Andreas; Bieseler, Barbara; Lennartz, Marco; Peter, Martin G.

CS Bayer AG, Leverkusen, D-51368, Germany

SO Pesticide Science (1996), 48(4), 305-314  
CODEN: PSSCBG; ISSN: 0031-613X

PB Wiley

DT Journal

LA English

RE.CNT 44 THERE ARE 44 CITED REFERENCES AVAILABLE FOR THIS RECORD

ALL CITATIONS AVAILABLE IN THE RE FORMAT

- L19 ANSWER 4 OF 7 HCPLUS COPYRIGHT 2009 ACS on STN  
TI Characterization of a major peritrophic membrane protein, peritrophin-44, from the larvae of *Lucilia cuprina*: cDNA and reduced amino acid sequences  
AB The peritrophic membrane is a semi-permeable chitinous matrix lining the gut of most insects and is thought to have important roles in the maintenance of insect gut structure, facilitation of digestion, and protection from invasion by microorganisms and parasites. Proteins are integral components of this matrix, although the structures and functions of these proteins have not been characterized in any detail. The peritrophic membrane from the larvae of the fly *Lucilia cuprina*, the primary agent of cutaneous myiasis in sheep, was shown to contain six major integral peritrophic membrane proteins. Two of these proteins, a 44-kDa glycoprotein (peritrophin-44) and a 48-kDa protein (peritrophin-48) together represent >70% of the total mass of the integral peritrophic membrane proteins. Peritrophin-44 was purified and its complete amino acid sequence was determined by cloning and sequencing the DNA complementary to its mRNA. The deduced amino acid sequence codes for a protein of 356 amino acids containing an amino-terminal signal sequence followed by five similar but nonidentical domains, each of approx. 70 amino acids and characterized by a specific register of 6 cysteines. One of these domains was also present in the noncatalytic regions of chitinases from *Brugia malayi*, *Manduca sexta*, and *Chelonus*. Peritrophin-44 has a uniform distribution throughout the larval peritrophic membrane. Reverse transcriptase-polymerase chain reaction detected the expression of peritrophin-44 in all three larval instars but only trace levels in adult *L. cuprina*. The protein binds specifically to tri-N-acetyl chitotriose and reacetylated chitosan in vitro. It is concluded that the multiple cysteine-rich domains in peritrophin-44 are responsible for binding to chitin, the major constituent of peritrophic membrane. Peritrophin-44 probably has roles in the maintenance of peritrophic membrane structure and in the determination of the porosity of the peritrophic membrane. This report represents the first characterization of an insect peritrophic membrane protein.
- AN 1996:233454 HCPLUS <>LOGINID::20090130>>  
DN 124:284665  
OREF 124:52631a,52634a  
TI Characterization of a major peritrophic membrane protein, peritrophin-44, from the larvae of *Lucilia cuprina*: cDNA and reduced amino acid sequences  
AU Elvin, Chris M.; Vuocolo, Tony; Pearson, Roger D.; East, Iain J.; Riding, George A.; Eisemann, Craig H.; Tellam, Ross L.  
CS Div. Tropical Animal Production, CSIRO, Indooroopilly, 4068, Australia  
SO Journal of Biological Chemistry (1996), 271(15), 8925-35  
CODEN: JBCHA3; ISSN: 0021-9258  
PB American Society for Biochemistry and Molecular Biology  
DT Journal  
LA English
- L19 ANSWER 5 OF 7 HCPLUS COPYRIGHT 2009 ACS on STN  
TI Effects of carbohydrates and lectins on cryptosporidial sporozoite penetration of cultured cell monolayers  
AB Cryptosporidium parvum first interacts with enterocytes when sporozoites penetrate the host plasma membrane. A shell vial assay using human embryonic Intestine 407 cells and purified *C. parvum* sporozoites was developed to study this process. Sporozoites were incubated in culture medium with various carbohydrates and lectins, and the suspensions were then added to the cell monolayers. Following incubation, the monolayers were fixed and stained and the number of schizonts were counted. No decreases in sporozoite motility or Intestine 407 cell viability were observed with carbohydrate or lectin treatment. N-Acetyl-D-glucosamine,

chitobiose, and chitotriose inhibited *C. parvum* infection, compared to 5 other tested carbohydrates. Wheat-germ agglutinin reduced penetration and Con A enhanced schizont formation, when compared to 8 other lectins. Next, sporozoites or Intestine 407 cells were pretreated with wheat germ agglutinin and Con A prior to sporozoite inoculation. Wheat-germ agglutinin treatment of sporozoites or cells equally caused a reduction in *C. parvum* infection, whereas enhancement was only observed when Intestine 407 cells were pretreated with Con A. These data suggest that glycoproteins with terminal N-acetyl-D-glucosamine residues may play a role in *C. parvum* adhesion or penetration of enterocytes. Also, host glycoproteins with Con A-like activity may play a role in these processes.

AN 1992:212099 HCPLUS <<LOGINID::20090130>>

DN 116:212099

OREF 116:35883a,35886a

TI Effects of carbohydrates and lectins on cryptosporidial sporozoite penetration of cultured cell monolayers

AU Kuhls, Thomas L.; Mosier, Derek A.; Crawford, David L.

CS Health Sci. Cent., Univ. Oklahoma, Oklahoma City, OK, 73104, USA

SO Journal of Protozoology (1991), 38(6), 74S-76S

CODEN: JPROAR; ISSN: 0022-3921

DT Journal

LA English

L19 ANSWER 6 OF 7 HCPLUS COPYRIGHT 2009 ACS on STN

TI Proteolysis in the gut of mosquito larvae results in further activation of the *Bacillus sphaericus* toxin

AB Gut proteases from the larvae of the mosquito *Culex pipiens* convert the 43-kilodalton (kDa) toxin from *B. sphaericus* 2362 to a 40-kDa peptide. The 50% lethal concentration of this peptide for tissue culture-grown cells of *C. quinquefasciatus* was 1.0 µg/mL (as determined by the intracellular ATP assay), 54-fold less than that of the 43-kDa peptide. Gut proteases from *Anopheles gambiae* and *Aedes aegypti*, as well as bovine pancreatic trypsin, also converted the 43-kDa protein to a 40-kDa peptide which was indistinguishable from the peptide formed by the proteases from *C. pipiens* with respect to its toxicity to tissues culture-grown cells of *C. quinquefasciatus*. Evidence for the in vivo conversion of the 43-kDa protein to the 40-kDa peptide was also obtained from expts. in which larvae of *C. pipiens*, *A. gambiae*, and *A. aegypti* were fed crystals from *B. sphaericus* 2362. By using the exclusion of trypan blue as an indication of cell viability, it was shown that chitobiose, chitotriose, N-acetylmuramic acid, and N-acetylneurameric acid decreased the toxicity of the 40 kDa peptide (from 100 to 50% mortality at .apprx.10 mM concns. of these sugars). Muramic acid, N-acetylgalactosamine, and N-acetylgalactosamine were less effective, while several sugars had no effect, suggesting that the 40-kDa toxin binds to specific receptors on the cell membrane. The 40-kDa protein was less toxic to tissue culture-grown cells of *A. gambiae* and *A. dorsalis*, and the same sugars which reduced the toxicity for cells of *C. quinquefasciatus* were also effective in reduction of toxicity for these cell lines. Apparently the tissue culture-grown cells from the 3 species of mosquito have identical or similar receptors for the 40-kDa toxin.

AN 1987:434750 HCPLUS <<LOGINID::20090130>>

DN 107:34750

OREF 107:5731a,5734a

TI Proteolysis in the gut of mosquito larvae results in further activation of the *Bacillus sphaericus* toxin

AU Broadwell, Andrew H.; Baumann, Paul

CS Dep. Bacteriol., Univ. California, Davis, CA, 95616, USA

SO Applied and Environmental Microbiology (1987), 53(6), 1333-7

CODEN: AEMIDF; ISSN: 0099-2240

DT Journal

LA English

L19 ANSWER 7 OF 7 HCAPLUS COPYRIGHT 2009 ACS on STN  
TI Chitinase from the gut of the cockroach, Periplaneta americana  
AB Chitinase was separated from the gut contents of the cockroach by (NH4)2SO4 precipitation and fractionated on diethylaminoethyl cellulose. The enzyme (0.028 mg./ml.) digested 35% of the chitin in the reaction mixture in 5 hrs. Mixts. containing chitinase, oligosaccharides, and citrate buffer, pH 4.5, were incubated for 5 hrs. As the substrate was used, paper chromatography showed increasing tetraose, then pentaose, then hexaose. Hexaose broke down into biose, triose, and a small amount of tetraose. No acetylaminodeoxyglucose was noted, and biose and triose were not attacked. An increase in enzyme concentration resulted in digestion of the triose to produce biose and acetylaminodeoxyglucose, but the biose remained unaffected. Chitinase is incapable of splitting chitobiose, splits chitotriose slowly, and splits oligosaccharides rapidly. The production of biose and triose from hexaose indicates random splitting and that chitinase is an endoenzyme.  
AN 1964:32380 HCAPLUS <>LOGINID::20090130>>  
DN 60:32380  
OREF 60:5819d-f  
TI Chitinase from the gut of the cockroach, Periplaneta americana  
AU Powning, R. F.; Irzykiewicz, H.  
CS Div. Entomol., C.S.I.R.O., Canberra, Australia  
SO Nature (London, United Kingdom) (1963), 200(4911), 1128  
CODEN: NATUAS; ISSN: 0028-0836  
DT Journal  
LA Unavailable

=> s methyl(w) (mannooligosaccharide or (manno-oligosaccharide))  
1086355 METHYL  
227 MANNOOLIGOSACCHARIDE  
2762 MANNO  
32931 OLIGOSACCHARIDE  
41 MANNO-OLIGOSACCHARIDE  
(MANNO(W)OLIGOSACCHARIDE)  
L20 1 METHYL(W) (MANNOOLIGOSACCHARIDE OR (MANNO-OLIGOSACCHARIDE))

=> d 120 ti abs bib

L20 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2009 ACS on STN  
TI Synthetic studies on cell-surface glycans. Part 12. Proton and carbon-13 NMR spectral study of synthetic methyl D-manno-oligosaccharides  
AB 1H- and 13C-NMR spectra for 16 synthetic Me manno-oligosaccharides were recorded, and the signals for the anomeric protons and anomeric carbon atoms in branched manno-pentaosides and -hexaosides were assigned, based on the data for Me manno-biosides and -triosides. These NMR data identified the branching pattern of high-mannose types of glycans of glycopeptides with those of unambiguously synthesized manno-oligosaccharides, and confirmed the structures proposed for such glycans.  
AN 1982:123143 HCAPLUS <>LOGINID::20090130>>  
DN 96:123143  
OREF 96:20233a,20236a  
TI Synthetic studies on cell-surface glycans. Part 12. Proton and carbon-13 NMR spectral study of synthetic methyl D-manno-oligosaccharides  
AU Ogawa, Tomoya; Sasajima, Kikuo  
CS Inst. Phys. Chem. Res., Wako, 351, Japan  
SO Carbohydrate Research (1981), 97(2), 205-27  
CODEN: CRBRAT; ISSN: 0008-6215

DT Journal  
LA English

=> s gentiooligosachcaride or gentiobiose or gentiotriose or gentiotetraose or gentiopentose or gentiohexose

0 GENTIOOLIGOSACHCARIDE  
1409 GENTIOBIOSE  
46 GENTIOTRIOSE  
28 GENTIOTETRAOSE  
0 GENTIOPENTOSE  
0 GENTIOHEXOSE

L21 1418 GENTIOOLIGOSACHCARIDE OR GENTIOBIOSE OR GENTIOTRIOSE OR GENTIOTE TRAOSE OR GENTIOPENTOSE OR GENTIOHEXOSE

=> s gentiooligosaccharide or gentiobiose or gentiotriose or gentiotetraose or gentiopentose or gentiohexose

27 GENTIOOLIGOSACCHARIDE  
1409 GENTIOBIOSE  
46 GENTIOTRIOSE  
28 GENTIOTETRAOSE  
0 GENTIOPENTOSE  
0 GENTIOHEXOSE

L22 1434 GENTIOOLIGOSACCHARIDE OR GENTIOBIOSE OR GENTIOTRIOSE OR GENTIOTE TRAOSE OR GENTIOPENTOSE OR GENTIOHEXOSE

=> s 117 and 122

L23 28 L17 AND L22

=> s 123 and (PY<2003 or AY<2003 or PRY<2003)

22983114 PY<2003  
4503368 AY<2003  
3972163 PRY<2003

L24 19 L23 AND (PY<2003 OR AY<2003 OR PRY<2003)

=> d 124 1-19 ti abs bib

L24 ANSWER 1 OF 19 HCPLUS COPYRIGHT 2009 ACS on STN

TI Microflora of microorganisms and several characteristics of laban, a traditional natural fermented milk in Yemen

AB Microflora of lactic acid bacteria and yeasts of Laban which had been made with bovine or ovine milk by traditional natural fermentation in Yemen, were studied. The mean of viable cell counts of microorganisms in Laban was 6.4 + 10<sup>8</sup> cfu/mL. The 60 strains of lactic acid bacteria and 24 strains of yeasts were isolated and identified. The percentages of strains on lactic acid bacteria flora were as follows: *Lactococcus lactis* subsp. *lactis*(1) was dominant in 88%. *Lc. lactis* subsp. *lactis*(2), *Leuconostoc mesenteroides* subsp. *mesenteroides*, and *Leuc. lactis* were in 5, 5, and 2%, resp. It was recognized that the some characteristics of *Lc. lactis* subsp. *lactis*(1) of the dominant strain were different from those of *Lc. lactis* subsp. *lactis*(2). The percentages of strains on yeast flora were as follows: *Trichosporon sericeum*, *Saccharomyces cerevisiae*, and *Candida kefyr* were dominant in 34, 21, and 21%, resp. In addition *S. pastorianus*, *C. versatilis*, *C. pseudotropicalis*, and *Zygosaccharomyces microellipsoides* were in 8, 8, 4, and 4%, resp. It was recognized that the single culture of *S. cerevisiae* did not produce ethanol in 10% reconstituted skimmilk, but otherwise the mixed culture of the strains together with lactic acid bacteria produced it in 10% reconstituted skimmilk. The Laban were manufactured by using the several mixed cultures of 4 strains of lactic acid bacteria and 2 strains of yeasts isolated from Laban in Yemen. The each mixed cultures were inoculated in 10%

reconstituted skimmilk, and were incubated at 30°, for 1-5 days. It was found that the rheol. scores (G', G" and G\*) of the curds increased and the flavor of those were more desirable in the Laban manufactured by the incubation at 30°, 4 days.

AN 2002:698367 HCPLUS <>LOGINID::20090130>>  
DN 138:203941  
TI Microflora of microorganisms and several characteristics of laban, a traditional natural fermented milk in Yemen  
AU Arai, Ikichi; Nakajima, Keisuke; Maruyama, Chigure; Nakamura, Tadashi; Toba, Takahiro; Urashima, Tadasu  
CS Dep. Bioresour. Sci., Obihiro Univ. Agric. Veterinary Med., Obihiro, 080-8555, Japan  
SO Miruku Saiensu (2002), 51(2), 63-72  
CODEN: MISAFD; ISSN: 1343-0289  
PB Nippon Kagaku Kai  
DT Journal  
LA Japanese

L24 ANSWER 2 OF 19 HCPLUS COPYRIGHT 2009 ACS on STN  
TI Change in the cecum contents of rats by oligosaccharide  
AB Effects of oligosaccharide syrups added to drinking water or a basal diet on decreasing or suppressing generation of fecal odor of domestic animals were studied using rats. Syrups of isomaltooligosaccharide, gentiooligosaccharide, and nigeroooligosaccharide (NGO) added to drinking water significantly increased water intake and also, addition of NGO significantly increased serum cholesterol levels of rats. Addition of 10% NGO syrup to the basal diet significantly increased feces weight and feces N and decreased digestibility of diet N compared with addition of 5% NGO syrup and control (no addition of oligosaccharide syrups). Propionic acid and butyric acid concns. in the cecum contents were significantly lower in rats given 5% NGO syrup with the basal diet than those given 10% NGO syrup and control. Valeric acid concentration in the cecum contents was significantly decreased when 5 or 10% NGO syrup was given with the basal diet. NGO may influence fermentation in the cecum and alter fecal volatile fatty acid composition

AN 2002:401831 HCPLUS <>LOGINID::20090130>>  
DN 137:139824  
TI Change in the cecum contents of rats by oligosaccharide  
AU Iwata, Hidetoshi; Ando, Ryuichi; Ohgushi, Atsushi; Yamashita, Tomoe; Tobisa, Manabu; Yamamoto, Mikio; Furuse, Mitsuhiro  
CS Department of Animal and Marine Bioresource Science, Faculty of Agriculture, Graduate School, Kyushu University, Japan  
SO Chikusan no Kenkyu (2002), 56(4), 494-500  
CODEN: CKNKAJ; ISSN: 0009-3874  
PB Yokendo  
DT Journal  
LA Japanese

L24 ANSWER 3 OF 19 HCPLUS COPYRIGHT 2009 ACS on STN  
TI Production of short-chain fatty acids and gas from various oligosaccharides by gut microbes of carp (*Cyprinus carpio L.*) in micro-scale batch culture  
AB We studied the metabolism of various oligosaccharides by carp (*Cyprinus carpio*) hindgut microbes by measuring gas productivity and organic acid production in gut contents using a 50- $\mu$ l-scale batch culture system. Carp hindgut contents were incubated with 500  $\mu$ g each of raffinose, lactosucrose, kestose, lactulose, gentiobiose, 4'-galactosyllactose and 6'-galactosyllactose and soybean-, xylo-, and isomalto-oligosaccharides or none (blank culture) at 25 °C for 6 h. The time-course of gas release from the culture (Y  $\mu$ l/culture) was

expressed as an exponential function of incubation time (t)  
[Y=A+B+(1-e-kt)]; A, B and k are consts. Potential production of gas  
(A+B) from soybean-oligosaccharide and raffinose was larger than for the  
other saccharides except for kestose, and blank culture. The rate constant  
of gas (k) for lactosucrose was larger than that for isomalto- and  
xylo-oligosaccharide, lactulose, kestose or blank culture. Net production of  
total SCFA (sum of acetic, propionic and n-butyric acid wts.) from  
cultures with soybean- and isomalto-oligosaccharides, raffinose,  
gentiobiose and lactosucrose was greater than that from blank  
culture. These results suggested that soybean-oligosaccharide and  
raffinose were potentially highly fermentable oligosaccharides for carp  
hindgut microbes. Chemical structures of oligosaccharides seem to play an  
important role in the fermentability. It is also likely that  
oligosaccharide utilization differs between mammals and teleosts.

AN 2002:383673 HCPLUS <<LOGINID::20090130>>

DN 137:165975

TI Production of short-chain fatty acids and gas from various  
oligosaccharides by gut microbes of carp (*Cyprinus carpio L.*) in  
micro-scale batch culture

AU Kihara, Minoru; Sakata, Takashi

CS Central Research Institute, Maruha Corporation, Tsukuba, 300-4295, Japan

SO Comparative Biochemistry and Physiology, Part A: Molecular & Integrative  
Physiology (2002), 132A(2), 333-340  
CODEN: CBPAB5; ISSN: 1095-6433

PB Elsevier Science Inc.

DT Journal

LA English

RE.CNT 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L24 ANSWER 4 OF 19 HCPLUS COPYRIGHT 2009 ACS on STN

TI Constitutive  $\beta$ -glucosidases hydrolyzing ginsenoside Rb1 and Rb2 from  
human intestinal bacteria

AB When ginsenoside Rb1 and Rb2 were anaerobically incubated with human  
intestinal microflora, these ginsenosides were  
metabolized to 20-O- $\beta$ -D-glucopyranosyl-20(S)-protopanaxadiol (compound  
K) and 20(S)-protopanaxadiol. Several kinds of intestinal  
bacteria hydrolyzed these ginsenosides. *Eubacterium* sp., *Streptococcus*  
sp. and *Bifidobacterium* sp., which more potently hydrolyzed  
gentiobiose than sophorose, metabolized ginsenoside Rb1 to compound  
K via ginsenoside Rd rather than gypenoside XVII. However, *Fusobacterium*  
K-60, which more potently hydrolyzed sophorose than gentiobiose,  
metabolized to compound K via gypenoside XVII. Ginsenoside Rb2 was also  
metabolized to compound K via ginsenoside Rd or compound O by human  
intestinal microflora. *Eubacterium* sp., *Streptococcus*  
sp. and *Bifidobacterium* sp. metabolized ginsenoside Rb2 to compound K via  
ginsenoside Rd rather than compound O. *Fusobacterium* K-60 metabolized  
ginsenoside Rb2 to compound K via compound O.

AN 2000:863206 HCPLUS <<LOGINID::20090130>>

DN 134:172661

TI Constitutive  $\beta$ -glucosidases hydrolyzing ginsenoside Rb1 and Rb2 from  
human intestinal bacteria

AU Bae, Eun-Ah; Park, Sun-Young; Kim, Dong-Hyun

CS College of Pharmacy, Kyung Hee University, Seoul, 130-701, S. Korea

SO Biological & Pharmaceutical Bulletin (2000), 23(12), 1481-1485  
CODEN: BPBLEO; ISSN: 0918-6158

PB Pharmaceutical Society of Japan

DT Journal

LA English

RE.CNT 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L24 ANSWER 5 OF 19 HCPLUS COPYRIGHT 2009 ACS on STN  
TI Effects of gentiooligosaccharides on human intestinal flora and food processing  
AB A review with 8 refs.  
AN 1998:521107 HCPLUS <>LOGINID::20090130>  
DN 129:244243  
OREF 129:49727a,49730a  
TI Effects of gentiooligosaccharides on human intestinal flora and food processing  
AU Unno, Takehiro  
CS Laboratory, Nippon Food Processing Co., Ltd., Japan  
SO Food Style 21 (1998), 2(8), 70-73  
CODEN: FSTYFF  
PB Shokuhin Kagaku Shinbunsha  
DT Journal; General Review  
LA Japanese

L24 ANSWER 6 OF 19 HCPLUS COPYRIGHT 2009 ACS on STN  
TI Structural analysis of disaccharides synthesized by  $\beta$ -D-glucosidase of *Bifidobacterium breve* clb and their assimilation by *Bifidobacteria*  
AB Circulation of a solution of 1 M D-fucose and 1 M D-glucose through a reaction system consisting of serial columns of immobilized recombinant  $\beta$ -D-glucosidase of *Bifidobacterium breve* clb and activated charcoal gave two oligosaccharides. Structural anal. identified these oligosaccharides as D-fucosylglucose and gentiobiose. The D-fucosylglucose obtained was well assimilated by many *Bifidobacteria* but not by the other intestinal bacteria tested.  
AN 1997:424122 HCPLUS <>LOGINID::20090130>  
DN 127:146906  
OREF 127:28305a,28308a  
TI Structural analysis of disaccharides synthesized by  $\beta$ -D-glucosidase of *Bifidobacterium breve* clb and their assimilation by *Bifidobacteria*  
AU Nunoura, Naoki; Fujita, Tomoyuki; Ohdan, Kohji; Kirihiata, Mitsunori; Yamamoto, Kenji; Kumagai, Hidehiko  
CS Department of Food Science and Technology, Faculty of Agriculture, Kyoto University, Kitashirakawa, 606-01, Japan  
SO Bioscience, Biotechnology, and Biochemistry (1997), 61(6), 1033-1035  
CODEN: BBBIEJ; ISSN: 0916-8451  
PB Japan Society for Bioscience, Biotechnology, and Agrochemistry  
DT Journal  
LA English

RE.CNT 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L24 ANSWER 7 OF 19 HCPLUS COPYRIGHT 2009 ACS on STN  
TI Improvement of intestinal absorption of leucine enkephalin by sugar coupling and peptidase inhibitors  
AB Peptidase-degradable leucine enkephalin (LE) was coupled with cellobiose or gentiobiose. In the absorption expts., cellobiose-coupled LE (CcpLE) was more stable than LE itself on the mucosal side, and CcpLE appeared on the serosal side. Destyrosyl LE coupled with cellobiose was not formed, indicating that sugar coupling provided LE with aminopeptidase resistance. In the presence of angiotensin-converting enzyme and enkephalinase inhibitors, the stability of CcpLE on the mucosal side was increased, and as a result more was absorbed. Furthermore, the absorption clearance was much higher than the value expected from the mucosal concentration of CcpLE. Similar results were observed in the absorption of gentiobiose-coupled LE. In the LE absorption experiment, however, LE

was not detected on the serosal side even in the presence of these peptidase inhibitors. Improvement of intestinal absorption by sugar coupling and peptidase inhibitors was evaluated kinetically, indicating the exclusive contribution of metabolic degradation of LE through intestinal tissues to the absorption process.

AN 1996:417940 HCPLUS <>LOGINID::20090130>>

DN 125:123422

OREF 125:22969a,22972a

TI Improvement of intestinal absorption of leucine enkephalin by sugar coupling and peptidase inhibitors

AU Mizuma, Takashi; Ohta, Kunihiro; Koyanagi, Akihiro; Awazux, Shoji

CS School of Pharmacy, Tokyo University of Pharmacy and Life Science, Tokyo, 192-03, Japan

SO Journal of Pharmaceutical Sciences (1996), 85(8), 854-857

CODEN: JPMSAE; ISSN: 0022-3549

PB American Chemical Society

DT Journal

LA English

L24 ANSWER 8 OF 19 HCPLUS COPYRIGHT 2009 ACS on STN

TI Evolution of digestion of carbohydrates in the separate parts of the digestive tract of the edible snail *Helix lucorum* (Gastropoda: Pulmonata: Stylommatophora) during a complete 24-hour cycle and the first days of starvation

AB In the present study we examined carbohydrase activities during a complete 24-h cycle and during the first days of starvation in both adult and juvenile snails. The results indicated the predominant role of the digestive gland in the secretions of the enzymes responsible for degradation of most of the carbohydrates tested. Salivary glands secreted some digestive enzymes but in amts. lower than secreted by the digestive gland. Enzymic activities fluctuated during the first hours of digestion and also after the digestive tract was empty. The relatively high enzymic activities recorded 24 h after the intake of food and during starvation could be due to the circadian rhythm of this species and/or to the participation of an existing microflora in the digestive tract of *Helix lucorum*. The double origin (exogenous and endogenous) of some digestive enzymes such as cellulases is discussed.

AN 1996:191242 HCPLUS <>LOGINID::20090130>>

DN 124:284778

OREF 124:52655a,52658a

TI Evolution of digestion of carbohydrates in the separate parts of the digestive tract of the edible snail *Helix lucorum* (Gastropoda: Pulmonata: Stylommatophora) during a complete 24-hour cycle and the first days of starvation

AU Flari, V.; Lazaridou-Dimitriadou, M.

CS Faculty of Sciences, Aristotle University of Thessaloniki, Thessaloniki, Greece

SO Journal of Comparative Physiology, B: Biochemical, Systemic, and Environmental Physiology (1996), 165(7), 580-91

CODEN: JPBPD; ISSN: 0174-1578

PB Springer

DT Journal

LA English

L24 ANSWER 9 OF 19 HCPLUS COPYRIGHT 2009 ACS on STN

TI Development of gentiooligosaccharide-containing syrups and their properties

AB The industrial production of gentiooligosaccharide-containing syrups (Gentose® #45&#80) was developed by using the condensation and transglucosylation reactions of fungal  $\beta$ -glucosidase. These syrups tasted bitter due to the gentiooligosaccharide. This is especially

true of Gentose®#45 since it has both the bitter taste and the sweet taste of glucose. These syrups showed high hygroscopicity, high moisture-retaining activity and reduced the f.p. of water more than sucrose. Other properties of gentiooligosaccharide-containing syrups such as osmotic pressure and water activity are almost the same as sucrose. Moreover, gentiooligosaccharide-containing syrups were not digested by pancreas originating  $\alpha$ -amylase, and the maximum no-effect level values of both syrups were estimated to be more than 0.3 g/kg. The administration of  $\beta$ -glucooligosaccharides including gentiooligosaccharides (4 g daily for 10 days) promoted the growth of Bifidobacteria and lowered fecal pH, *in vivo*. From these results, it was presumed that gentiooligosaccharide-containing syrups might be utilized as brand-new oligosaccharides for the improvement of intestinal micro-flora and widely used for food processing and other applications.

- AN 1996:97749 HCPLUS <<LOGINID::20090130>>  
DN 124:173946  
OREF 124:32259a, 32262a  
TI Development of gentiooligosaccharide-containing syrups and their properties  
AU Nakakuki, Teruo; Unno, Takehiro  
CS Res. Inst., Nihon Shokuhin Kako Co., Ltd., Sizuoka, 417, Japan  
SO Foods & Food Ingredients Journal of Japan (1996), 167, 116-21  
CODEN: FFIJER; ISSN: 0919-9772  
PB FFI Janaru  
DT Journal  
LA Japanese
- L24 ANSWER 10 OF 19 HCPLUS COPYRIGHT 2009 ACS on STN  
TI Industrial production of gentiooligosaccharide-containing syrups  
AB A review with 8 refs. The industrial production of syrups containing oligosaccharides of gentiobiose series was developed by using condensation and trans-glucosylation activities of  $\beta$ -glucosidase (EC 3.2.1.21). The administration of these saccharides (4 g daily for 10 days) promoted the growth of bifidobacteria and lowered fecal pH *in vivo*. These syrups might be widely utilized for food processing and for the improvement of intestinal microflora.  
AN 1995:549201 HCPLUS <<LOGINID::20090130>>  
DN 122:312979  
OREF 122:56921a, 56924a  
TI Industrial production of gentiooligosaccharide-containing syrups  
AU Unno, Takehiro  
CS Res. Inst., Nihon Shokuhin Kako Co., Ltd., Fuji, 417, Japan  
SO Oyo Toshitsu Kagaku (1995), 42(1), 83-9  
CODEN: OTKAE3; ISSN: 1340-3494  
PB Nippon Oyo Toshitsu Kagakkai  
DT Journal; General Review  
LA Japanese
- L24 ANSWER 11 OF 19 HCPLUS COPYRIGHT 2009 ACS on STN  
TI Identification and clustering of lactic acid bacteria and yeasts from wheat sourdoughs of central Italy  
AB The microflora composition of 24 wheat sourdoughs from the Region of Umbria (Italy) was characterized. The number of lactic acid bacteria and yeast ranged from 5 + 107 to 5 + 109 and from 3 + 104 to 5 + 107 cfu/g, resp. About 20% of the 493 and 384 isolated strains of presumptive *Lactobacillus* and yeast species was identified using conventional physiol. and biochem. characteristics. As a whole, 49% of the *Lactobacillus* strains was identified as *L. brevis* subsp. *lindneri*, 21% as *L. plantarum*, 14% as *L. farciminis*, 4% both as *L. acidophilus* and *L. fermentum*, 3% both as *L. fructivorans* and *L. alimentarius*, and 2% as *L.*

brevis. Of yeasts, 66% were identified as *Saccharomyces cerevisiae*, 17% as *Candida krusei*, 16% as *S. exiguum*, and 1% as *Hansenula anomala*. The relationships within all the identified strains were established and are discussed using the results from the cluster anal. Sourdough data were plotted on the basis of the characterized lactic acid bacteria and yeast species.

AN 1994:654301 HCPLUS <>LOGINID::20090130>>  
DN 121:254301  
OREF 121:46427a, 46430a  
TI Identification and clustering of lactic acid bacteria and yeasts from wheat sourdoughs of central Italy  
AU Gobbetti, M.; Corsetti, A.; Rossi, J.; La Rosa, F.; De Vincenzi, S.  
CS Istituto di Microbiologia Lattiero-Casearia, Facolta di Agraria, Perugia, 06100, Italy  
SO Italian Journal of Food Science (1994), 6(1), 85-94  
CODEN: ITFSEY; ISSN: 1120-1770  
DT Journal  
LA English

L24 ANSWER 12 OF 19 HCPLUS COPYRIGHT 2009 ACS on STN  
TI Na<sup>+</sup>-dependent transport of aminopeptidase-resistant sugar-coupled tripeptides in rat intestine  
AB Aminopeptidase-degradable tripeptide, tyrosylglycylglycine (TGG, a part of aminopeptidase-degradable enkephalines), was coupled with sugars (cellobiose, maltose, lactose, gentiobiose and glucose). These sugar-coupled TGGs were stable enough to be transported from the mucosal to the serosal side in rat everted small intestine, while TGG was not stable enough to be transported. The transport of sugar-coupled TGGs was decreased in the absence of Na<sup>+</sup>, indicating the Na<sup>+</sup>-dependent transport of sugar-coupled TGG in rat intestine. Cellobiose-coupled TGG and glucose-coupled TGG did not mutually inhibit their transport. It was suggested that the intestinal Na<sup>+</sup>-dependent transporter for disaccharide-coupled tripeptides, which have a pyranose ring, was different from that of monosaccharide-coupled tripeptide, which has no pyranose ring.

AN 1994:652130 HCPLUS <>LOGINID::20090130>>  
DN 121:252130  
OREF 121:45963a, 45966a  
TI Na<sup>+</sup>-dependent transport of aminopeptidase-resistant sugar-coupled tripeptides in rat intestine  
AU Mizuma, Takashi; Sakai, Norio; Awazu, Shoji  
CS Department Biopharmaceutics, Tokyo College Pharmacy, Hachioji, 192-03, Japan  
SO Biochemical and Biophysical Research Communications (1994), 203(3), 1412-16  
CODEN: BBRCA9; ISSN: 0006-291X  
DT Journal  
LA English

L24 ANSWER 13 OF 19 HCPLUS COPYRIGHT 2009 ACS on STN  
TI Removal of bitterness from β-glucooligosaccharides  
AB Bitterness of β-glucooligosaccharides, useful as sweeteners and improvers for intestinal *Bifidobacterium* growth, are removed by reduction of the oligosaccharides. Gentiooligosaccharide syrup (containing gentiobiose 73.7, gentiotriose 20.2, and gentiotetraose 4.3%) (manufactured from glucose with β-glucosidase) was hydrogenated at 130° and 120 kg/cm<sup>2</sup> H over Raney Ni for 4 h (hydrogenation ratio 99.4%). The product had less bitterness than control.

AN 1992:611288 HCPLUS <>LOGINID::20090130>>  
DN 117:211288

OREF 117:36473a,36476a

TI Removal of bitterness from  $\beta$ -glucoooligosaccharides

IN Okada, Gentaro; Totsuka, Atsushi; Nakakuki, Teruo; Unno, Takehiro

PA Nippon Shokuhin Kako K. K., Japan

SO Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 04148661 JP 3020583	A B2	19920521 20000315	JP 1990-271352	19901009 <--
PRAI	JP 1990-271352		19901009	<--	

L24 ANSWER 14 OF 19 HCAPLUS COPYRIGHT 2009 ACS on STN

TI Exolytic hydrolysis of toxic plant glucosides by guinea pig liver cytosolic  $\beta$ -glucosidase

AB Although the guinea pig liver cytosolic  $\beta$ -glucosidase does not catalyze the hydrolysis of gentiobiose, it does hydrolyze disaccharide-containing glycosides such as p-nitrophenyl- $\beta$ -D-gentiobioside ( $\text{Glc}\beta 1\rightarrow 6\text{Glc}\beta$ -pNP) and mandelonitrile- $\beta$ -D-gentiobioside (amygdalin). Furthermore, the enzyme attacks disaccharide glycosides exolytically; specifically, the authors document the exolytic deglucosylation of amygdalin and the generation of the intermediate monosaccharide glycoside mandelonitrile- $\beta$ -D-glucoside prior to the formation of the aglycon (mandelonitrile). The cytosolic  $\beta$ -glucosidase catalyzes the hydrolysis of various phenolic (e.g. arbutin and salicin) and cyanogenic plant glucosides (e.g. prunasin). Using the everted gut-sack technique, the plant glucosides, amygdalin, prunasin, and vicine, are transported across the small intestine of the guinea pig efficiently and without being hydrolyzed. Thus, the cytosolic  $\beta$ -glucosidase may participate in biotransformation of toxic plant glucosides.

AN 1992:526101 HCAPLUS <>LOGINID::20090130>>

DN 117:126101

OREF 117:21765a,21768a

TI Exolytic hydrolysis of toxic plant glucosides by guinea pig liver cytosolic  $\beta$ -glucosidase

AU Gopalan, Venkatakrishnan; Pastuszyn, Andrzej; Galey, William R., Jr.; Glew, Robert H.

CS Sch. Med., Univ. New Mexico, Albuquerque, NM, 87131, USA

SO Journal of Biological Chemistry (1992), 267(20), 14027-32

CODEN: JBCHA3; ISSN: 0021-9258

DT Journal

LA English

L24 ANSWER 15 OF 19 HCAPLUS COPYRIGHT 2009 ACS on STN

TI Derivatives of plant beta-glucans are hydrolyzed by intestinal lactase-phlorizin hydrolase of mammals

AB Laminaribiose and gentiobiose, 2 O- $\beta$ -linked disaccharides deriving from plant  $\beta$ -glucans, were hydrolyzed in the rat small intestine by an enzyme anchored into the brush border membrane of the enterocytes. Immunol. and biochem. data, together with the developmental pattern of expression, support that this activity is carried out by the bifunctional enzyme involved in the hydrolysis of lactose and glycosylceramides: the lactase-phlorizin hydrolase complex.

AN 1992:38486 HCAPLUS <>LOGINID::20090130>>

DN 116:38486

OREF 116:6525a,6528a

TI Derivatives of plant beta-glucans are hydrolyzed by intestinal

AU lactase-phlorizin hydrolase of mammals  
 Freund, Jean Noel; Gosse, Francine; Raul, Francis  
 CS INSERM, Strasbourg, F-67200, Fr.  
 SO Enzyme (1991), 45(1-2), 71-4  
 CODEN: ENZYBT; ISSN: 0013-9432  
 DT Journal  
 LA English

L24 ANSWER 16 OF 19 HCAPLUS COPYRIGHT 2009 ACS on STN  
 TI Beta-glucooligosaccharide-containing composition as flavoring agent  
 AB Compns. containing  $\beta$ -gluco-oligosaccharides and/or reduced products thereof can be used as low-calorie flavoring agents in food, beverages, or medicines. These oligosaccharides promote the growth of beneficial intestinal flora (e.g. Bifidobacteria, lactic acid bacteria) but not pathogenic or putrefactive bacteria. Gentio-oligosaccharides were prepared by incubation of glucose with  $\beta$ -D-glucosidase. The mixture was used as is to prepare candies, cookies, drinks, etc. or fractionated by ion-exchange chromatog. for testing with various microorganisms.  
 AN 1991:581869 HCAPLUS <<LOGINID::20090130>>  
 DN 115:181869  
 OREF 115:31037a,31040a  
 TI Beta-glucooligosaccharide-containing composition as flavoring agent  
 IN Nakakuki, Teruo; Kainuma, Seishiro; Unno, Takehiro; Okada, Gentaro  
 PA Japan Maize Products Co., Ltd., Japan  
 SO Eur. Pat. Appl., 23 pp.  
 CODEN: EPXXDW  
 DT Patent  
 LA English  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 415720	A2	19910306	EP 1990-309410	19900829 <--
	EP 415720	A3	19920108		
	EP 415720	B1	19960612		
	R: DE, FR, GB, IT, NL				
	JP 03083557	A	19910409	JP 1989-221927	19890829 <--
	JP 3100139	B2	20001016		
	JP 03262460	A	19911122	JP 1990-61935	19900313 <--
	US 5219842	A	19930615	US 1990-565441	19900809 <--
PRAI	JP 1989-221927	A	19890829	<--	
	JP 1990-61935	A	19900313	<--	

L24 ANSWER 17 OF 19 HCAPLUS COPYRIGHT 2009 ACS on STN  
 TI Sugar specificities of anti-human ABO(H) blood group erythrocyte agglutinins (lectins) and hemolytic activity in the hemolymph and gut extracts of three Glossina species  
 AB Relatively heat-labile, human ABO(H) blood group non-specific lectins or lectin-like agglutinins, titer range 2-9-2-16, were detected in Glossina morsitans morsitans, G. palpalis gambiensis and G. tachinoides hemolymph. The hemagglutinins exhibited wide specificities for carbohydrate residues on the surface of human erythrocytes, indicative of heterogeneity, which varied according to the tsetse species examined and the type of erythrocyte used. Hemolymph agglutinin reactivities were directed mainly towards sorbose, trehalose, glucose, 2-deoxygalactose and to a lesser extent the deoxy, [1-4]-and/or [1-6]-linked derivs. of glucose. Occasionally fructose, mannose, sucrose, turanose, stachyose and melezitose minimally inhibited agglutination. Midgut hemagglutinins, titers 2-6 or 2-7, were only found in G. m. morsitans exclusively against AB erythrocytes while hindgut exts. in all 3 Glossina species caused agglutination (titers 2-1-2-7) of most erythrocyte types. Heat-labile (possibly protease but not trypsin) hemolytic mols. were present in most gut prepsn.

Conversely, a non-proteolytic, partially thermostable hemolysin(s) was detected in *G. m. morsitans* midgut samples. Gut hemagglutinin specificities were less diverse than those of hemolymph and effective agglutination inhibitors were glucose, galactose or mannose and their deoxy, aminated and N-acetylated derivs. Addnl. sorbose, sucrose, turanose, gluconic acid and Me glucoside inhibited in *G. m. morsitans*.

AN 1988:471775 HCPLUS <>LOGINID::20090130>>

DN 109:71775

OREF 109:12016h,12017a

TI Sugar specificities of anti-human ABO(H) blood group erythrocyte agglutinins (lectins) and hemolytic activity in the hemolymph and gut extracts of three *Glossina* species

AU Ingram, George A.; Molyneux, David H.

CS Dep. Biol. Sci., Univ. Salford, Salford, M5 4WT, UK

SO Insect Biochemistry (1988), 18(3), 269-79

CODEN: ISBCAN; ISSN: 0020-1790

DT Journal

LA English

L24 ANSWER 18 OF 19 HCPLUS COPYRIGHT 2009 ACS on STN

TI  $\alpha$ -Galactosidase activity of fungi on intestinal gas-forming peanut oligosaccharides

AB *Neurospora sitophila* and *Rhizopus oligosporus*, the 2 fungi which are used in the preparation of fermented peanut press cake (ontjom), and 8 other fungi, most of which are traditionally or industrially used to ferment oilseeds and grains, were examined for their ability to utilize sucrose, raffinose, and stachyose in peanuts. Trimethylsilyl ether derivs. of sugars extracted from unfermented peanut meal, as well as meal fermented for up to 98 hr, were quantitated by gas chromatog. with gentiobiose as an internal standard. Six fungal strains, including *N. sitophila*, showed definite  $\alpha$ -galactosidase activity with a decrease in raffinose and stachyose content of ferments. *R. oligosporus* and 3 other strains did not utilize these sugars or utilized them slowly.

AN 1974:550687 HCPLUS <>LOGINID::20090130>>

DN 81:150687

OREF 81:23499a,23502a

TI  $\alpha$ -Galactosidase activity of fungi on intestinal gas-forming peanut oligosaccharides

AU Worthington, R. E.; Beuchat, Larry R.

CS Dep. Food Sci., Univ. Georgia, Experiment, GA, USA

SO Journal of Agricultural and Food Chemistry (1974), 22(6), 1063-6

CODEN: JAFCAU; ISSN: 0021-8561

DT Journal

LA English

L24 ANSWER 19 OF 19 HCPLUS COPYRIGHT 2009 ACS on STN

TI Gentiobiase

AB In addition to the enzymes lichenase and cellobiase, the dialyzed intestinal juice of the snail contains gentiobiase, as evidenced by the hydrolysis of gentiobiose in its presence.

AN 1925:10507 HCPLUS <>LOGINID::20090130>>

DN 19:10507

OREF 19:1430h-i

TI Gentiobiase

AU Karrer, P.; Staub, M.

SO Biochemische Zeitschrift (1924), 152, 207-10

CODEN: BIZEA2; ISSN: 0366-0753

DT Journal

LA Unavailable

=> d his

(FILE 'HOME' ENTERED AT 14:43:33 ON 30 JAN 2009)

FILE 'HCAPLUS' ENTERED AT 14:43:55 ON 30 JAN 2009

L1 32931 S OLIGOSACCHARIDE  
L2 114856 S MANNO OR MANNOSE OR ISOMALTO OR ISOMALTOSA OR GENTIO OR GENTI  
L3 6385 S L1 AND L2  
L4 76010 S CAESINOGLYCOMACROPEPTIDE OR GUAR OR GALACTOMANNAN OR LACTOSE  
L5 81984 S L3 OR L4  
L6 172759 S PREBIOTIC OR ENTERIC OR GUT OR INTESTINAL  
L7 3858 S L5 AND L6  
L8 2624 S L7 AND (PY<2003 OR AY<2003 OR PRY<2003)  
L9 40 S L8 AND PREBIOTIC  
L10 257 S CASEINOGLYCOMACROPEPTIDE OR GLYCOMACROPEPTIDE  
L11 16 S CASEINOGLYCOMACROPEPTIDE  
L12 14 S L11 AND (PY<2003 OR AY<2003 OR PRY<2003)  
L13 944 S CHITOOLIGOSACCHARIDE OR (CHITO-OLIGOSACCHARIDE) OR CHITOTRIOS  
L14 953 S CHITOOLIGOSACCHARIDE OR (CHITO-OLIGOSACCHARIDE) OR CHITOTRIOS  
L15 4563 S PREBIOTIC  
L16 0 S L14 AND L15  
L17 166445 S GUT OR MICROFLORA OR INTESTINAL  
L18 15 S L14 AND L17  
L19 7 S L18 AND (PY<2003 OR AY<2003 OR PRY<2003)  
L20 1 S METHYL(W)(MANNOOLIGOSACCHARIDE OR (MANNO-OLIGOSACCHARIDE))  
L21 1418 S GENTIOOLIGOSACHARIDE OR GENTIOBIOSE OR GENTIOTRIOSE OR GENTI  
L22 1434 S GENTIOOLIGOSACCHARIDE OR GENTIOBIOSE OR GENTIOTRIOSE OR GENTI  
L23 28 S L17 AND L22  
L24 19 S L23 AND (PY<2003 OR AY<2003 OR PRY<2003)

=> log hold

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FILE 'HCAPLUS' ENTERED AT 16:36:39 ON 30 JAN 2009  
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COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	278.30	278.52

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)		SINCE	FILE	TOTAL
	CA SUBSCRIBER PRICE	ENTRY	SESSION	
		-65.60		-65.60

=> s methyl amnno  
=> s methyl manno?  
1086355 METHYL  
59926 MANNO?  
L25 206 METHYL MANNO?  
(METHYL (W) MANNO?)

=> s l17 and l25  
L26 2 L17 AND L25

=> d 126 1-2 ti abs bib

L26 ANSWER 1 OF 2 HCPLUS COPYRIGHT 2009 ACS on STN  
TI Identification of a 148-kDa surface lectin from Giardia lamblia with specificity for  $\alpha$ -methyl-D-mannoside  
AB A lectin specific for  $\alpha$ -methyl-D-mannoside was purified from the membrane extract of Giardia lamblia by a combination of gel filtration chromatog. on Sephadex G-75 and Superose 6-HR 10/30. The homogeneity of the lectin was established by SDS-PAGE. The mol. mass of the native protein was 148 kDa. The lectin agglutinated rabbit erythrocytes in the presence of Ca<sup>2+</sup> at 37° and pH 7.0. The maximum activity of the lectin was obtained after trypsin treatment. The inhibition study clearly suggests that the binding site of the lectin recognizes  $\alpha$ -methyl-D-mannoside as the immunodominant sugar.

AN 1995:961920 HCPLUS <<LOGINID::20090130>>

DN 124:7014

OREF 124:1519a,1522a

TI Identification of a 148-kDa surface lectin from Giardia lamblia with specificity for  $\alpha$ -methyl-D-mannoside

AU Sreenivas, K.; Ganguly, Nirmal K.; Ghosh, Sujata; Sehgal, Rakesh; Mahajan, Ramesh C.

CS Department of Experimental Medicine, Postgraduate Institute of Medical Education and Research, Chandigarh, 160 012, India

SO FEMS Microbiology Letters (1995), 134(1), 33-7  
CODEN: FMLED7; ISSN: 0378-1097

PB Elsevier

DT Journal

LA English

L26 ANSWER 2 OF 2 HCPLUS COPYRIGHT 2009 ACS on STN

TI Fimbriae and adhesive properties in dysentery bacilli

AB Electron microscopy revealed the presence of nonflagellar filamentous appendages, fimbriae, in 103 out of 145 strains of Shigella flexneri, the percentage being equal in freshly isolated and in older strains. All fimbriate Flexner strains underwent reversible mutation between a fimbriate and a non-fimbriate phase. The fimbriate mutant became dominant after cultivations in broth. Its emergence was accompanied by a surface pellicle formation and a greater increase in growth, due apparently to the free O supply of the bacteria composing the pellicle. The non-fimbriate mutant became dominant after serial cultivation aerobically on agar, anaerobically in broth, or aerobically in continually agitated broth. Fimbriation was invariably accompanied by possession of hemagglutinating activity, and its absence by lack of such activity. Hemagglutination was not inhibited by the presence of mucin or normal serum, by warming to 55°, or by any pH value between 3 and 10. It was wholly inhibited by small concns. of D-mannose,  $\alpha$ - methyl mannoside, and by yeast mannan. Fimbriate bacteria adhered to the epithelial cells

of guinea pig and human colon. Non-fimbriate bacteria did not so adhere, but were often agglutinated by the intestinal mucin.  
Fimbriation did not reduce susceptibility to attack by lytic phages. 22  
references.

AN 1958:11786 HCPLUS <>LOGINID::20090130>>  
DN 52:11786  
OREF 52:2162h-i,2163a-b  
TI Fimbriae and adhesive properties in dysentery bacilli  
AU Duguid, J. P.; Gillies, R. R.  
CS Univ. Edinburgh, UK  
SO Journal of Pathology and Bacteriology (1957), 74, 397-411  
CODEN: JPBAA7; ISSN: 0368-3494  
DT Journal  
LA Unavailable

=> s methyl(W) (mannobiose or mannotriose or mannotetraose or mannopentose or mannohexose or mannooligosaccharide)

1086355 METHYL  
383 MANNOBIOSE  
289 MANNOTRIOSE  
155 MANNOTETRAOSE  
3 MANNOPENTOSE  
0 MANNOHEXOSE  
0 MANNOOLIGOSACCHAIRDE  
L27 0 METHYL(W) (MANNOBIOSE OR MANNOTRIOSE OR MANNOTETRAOSE OR MANNOPEN  
TOSE OR MANNOHEXOSE OR MANNOOLIGOSACCHAIRDE)